WEATHER MAPS,

PUBLISHED AT SYDNEY,

NEW SOUTH WALES,

1887-88.

H. C. RUSSELL, B.A.,

GOVERNMENT ASTRONOMER.

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METEOROLOGICAL REPORTS AND MAP FOR JANUARY 1, 1887.

Stations	wt	Mx	mn	r'in
Albury	b	88	56	0
Armidale	b	69	61	0·05
Balranald	b	98	55	0
Bathurst	b	87	54	0
Bend'm'r	c	94	61	0
Bodalla ..	g	83	60	0
Bourke ..	b	100	65	0
Br'w rrina	-	—	—	-
Bundarra	b	79	66	0
C'md'n H	c	78	69	0
C.St.Geo	b	73	59	0
Carcoar ..	b	80	59	0
Casino ..	r	91	64	0·97
Cassilis ..	b	81	65	0
Clarence	r	85	69	0·71
C'nd'b'lin	b	94	61	0
Cooma ..	b	85	52	0
Coonab'n	b	94	48	0
Cowra ..	b	97	68	0
Deniliq'n	b	89	45	0
Dubbo ..	b	—	62	0
Eden	-	—	—	-
Euston ..	b	89	52	0
Forbes ..	b	90	57	0
Gl'n Inn's	c	90	61	0
Goulburn	b	79	52	0

Grafton ..	r	92	61	0·20
Gulgong	c	88	55	0
Gunned'h	b	93	72	0
Hay	b	85	58	0
Inverell ..	b	92	65	0
Kiandra	b	82	45	0
Lismore	r	90	70	0·16
Maitland	b	73	65	0
Marsdens	b	89	70	0
Menindie	b	73	65	0
Molong ..	b	96	52	0
M'r'ng'r'll	b	86	66	0
Moree ..	b	98	76	0
Moruya ..	b	75	61	0
Moss Vale	u	69	57	0·03
Mt. Hope	b	94	61	0
M.Vict'ria	b	77	43	0

Mudgee	b	93	56	0
M'rr'mb'h	b	73	49	0
M'rr'r'ndi	b	78	61	0
Mus'lbr'k	b	83	60	0
Narrabri	b	98	66	0
Newcastle	b	79	67	0
Orange ..	b	82	53	0
Picton ..	o	73	61	0
P. M'q'rie	r	82	66	0·48
P. St'ph'n	c	79	62	0
Q'nbeyan	c	76	61	0
Quirindi	b	85	63	0
Singleton	g	72	66	0
SYDNEY ..	c	74	64	0
Tamw'rth	-	—	—	-
Taralga ..	-	—	—	-
Taree ..	g	80	68	0·01
T'nt'rfield	c	87	59	0
Wagga ..	b	94	61	0
W... ha ..	c	85	44	0·11
...ett ..	b	97	82	0

SYDNEY OBSERVATORY

LATITUDE 33° 51' 41" S LONGITUDE 10h. 4m 50s...

Average Annual Rainfall for 28 years .... [illegible]

Total Rainfall for 1886 39·426

January 1st 1887 ——

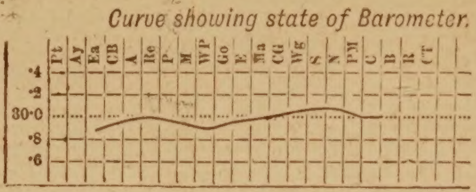
Barometers corrected to 32° Fah. and Mean Sea Level

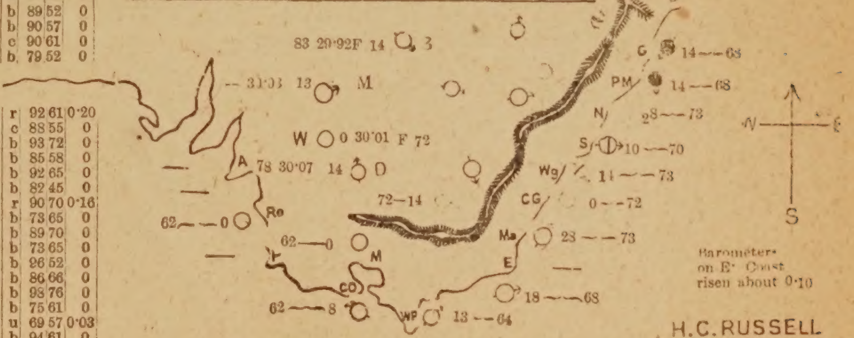
Fine, wind N; Cloudy, wind E; T. storm, wind S; Rain, wind W. If it is CALM, the symbol is used without the arrow.

—— Smooth sea.

〰 Heavy sea

Very heavy sea.





TIME BALL.
Drops at 1 p.m. S.M.T.
2h. 55m 9·19s. a.m
Greenwich Mn. Time
Ma. Var. 35'37" E

Barometers on E. Coast risen about 0·10

H.C. RUSSELL
GOVERNMENT ASTRONOMER

NOTES EXPLANATORY OF MAP.

In the list of stations the column headed W.T. gives the state of the weather at 9 a.m., b standing for blue sky; c, detached clouds; d, drizzling rain; f, fog; g, gloomy; h, hazy; m, misty; n, frosty; o, overcast; p, passing showers; r, rain; s, snow; t, thunder; u, threatening. The next column. M'x gives the maximum temperature for previous 24 hours. M'n the corresponding minimum temperature; r'n, the rain for the previous 24 hours. The symbols used in the map are explained on the margin. At each coast station the wind symbol is placed like a vane pointing to the direction from which the wind is coming. A clear circle with it means fine weather; a circle with bar, cloudy weather; and a black spot, raining. Next to this symbol are placed figures denoting the number of miles the wind is moving per hour; next, a symbol showing the state of the sea; and, lastly, figures denoting the shade temperature at 9 a.m. The barometer curve shows the state of barometers round the coast from Perth to Cooktown:—Pt, Perth; Ay, Albany; Ea, Eucla; CB, Cape Borda; A, Adelaide; Re, Robe; P, Portland; M, Melbourne; W P, Wilson's Promontory; Go, Gabo; E, Eden; Ma, Moruya; C G Jervis Bay; Wg, Wollongong; S, Sydney; N, Newcastle; P M, Port Macquarie; C, Clarence River; B, Brisbane; R. Rockhampton; Ct, Cooktown. Inland the state of barometer ..., Deniliquin, Wentworth Menindie, Bourke, and Alice ... enables one at a glance to trace th...

[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
W'ntw'rth	b	84	58	0
W'll'ng'ng	c	75	64	0·02
Young ..	b	95	57	0

ceding them, and southerly following.

South Australia.—Generally fine and warm, with light variable winds and calms, fallen barometers, and smooth sea. Extremes of barometers and temperature on the coast: Port Augusta, 30·00; Eucla, 29·86 and 73·; Robe, 62·. In Northern Territory: Daly Waters, 29·85 and 90·; Port Darwin, 29·75 and 87·.

Victoria.—Generally fine, with light variable winds and calms, fallen barometers, and smooth sea. Extremes of barometers and temperature: Lake's Entrance, 30·03; Wilson's Promontory, 29·92; Horsham, 74·; and Melbourne, 62·.

Tasmania.—Generally fine and cool, with light variable winds, almost steady barometers, and moderate sea. Extremes of barometers and temperature: Low Heads, 30·00 and 58·; Hobart 29·81 and 66·.

Queensland.—Cape Moreton, E., light, fine, moderate sea. Barometer, 29·89.

New South Wales.—Generally fine and clear, but cool west of the range, cloudy and unsettled in eastern division, and raining on the coast north of Port Macquarie. Winds are light and variable, but chiefly easterly. Barometers have risen on the coast, but fallen in west parts, and the sea is smooth. Light rain has fallen in north coast districts, heaviest on the Clarence. Extremes of barometers and temperature at 9 a.m.: Wollongong, 30·06; Dubbo, 29·94; Bourke, 83·; and Kiandra, 61·. Reading of the standard barometer at Sydney, corrected to 32· Fahr. and mean sea level, at 9 a.m., 30·064. Extra station: Lake Cudgellico, max. 65·, min. 56·, fine and clear. For further particulars see map.

3 P.M. OBSERVATIONS.

Victoria.—Wilson's Promontory, S.W., 12, cloudy, smooth sea, temperature 66·.

New South Wales.—Eden, E., 28, fine, little sea, temperature 71·; Sydney, E., 20, fine, temperature 73·.

HEIGHT OF RIVERS ABOVE SUMMER LEVEL.

Macintyre: At Mungindi, 5 feet. Barwon: At Mogil Mogil, 5 feet; at Walgett, 7 feet. Namoi: At Walgett, low. Culgoa: At Goodooga, 2 feet 6 inches. Darling: At Brewarrina, 11 feet; at Bourke, 18 feet 7 inches; at Louth, 18 feet 9 inches; at Tilpa, 25 feet 3 inches; at Wilcannia, 28 feet 4 inches; at Menindie, 27 feet 8 inches; at Pooncarie, 23 feet 9 inches; at Wentworth, 15 feet. Murrumbidgee: At Gundagai, 3 feet; at Wagga, 2 feet 9 inches; at Hay, 5 feet 6 inches; at Balranald, 11 feet. Murray: At Albury, 2 feet 6 inches; at Euston, 11 feet.

ASTRONOMICAL MEMORANDA FOR JANUARY 3.

Sun rises at 4.56, sets at 7.13; Moon rises, 12.50 p.m. Mercury 3.35 a.m., 5.50 p.m.; Venus, 5.25 a.m., 7.45 p.m.; Mars, 6.55 a.m., 8·51 p.m.; Jupiter, 12.38 a.m., 1.44 p.m.; Saturn, 7.35 p.m., 5.35 a.m. Full moon, 10th; new moon, 24th.

High water at Fort Denison, 1.29 a.m., 1.56 p.m.

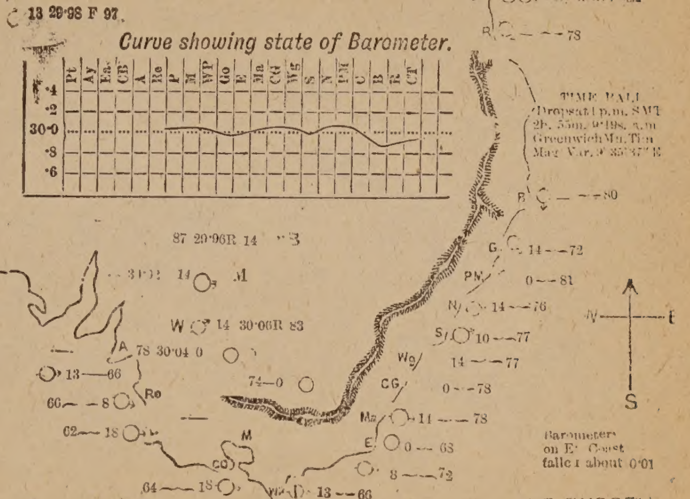
METEOROLOGICAL REPORTS AND MAP FOR JANUARY 3, 1887.

SYDNEY OBSERVATORY.
LATITUDE 33° 51′ 41″ S LONGITUDE 10h. 4m 50·81s. E.

Average Annual Rainfall for 28 years...... .. 49·489
Total Rainfall for 1886 39·426
January 3 1887 0·002
Barometers corrected to 32° Fah. and Mean Sea Level

If it is CALM, the symbol is used without the arrow
Smooth sea.
Heavy sea.
Very heavy sea.

Stations	W.T.	Mx	Mn	R'in
Albury	b	95	54	0
Armidale	u	105	59	0·12
Balranald	b	103	59	0
Bathurst	b	90	53	0·16
Bend'm'r	b	94	57	0·09
Bodalla ..	b	87	56	0·40
Bourke ..	b	108	71	0
Br'w rrina	b	101	54	0·06
Bundarra	c	85	59	0·45
C'md'n H	c	81	66	0
C.St.Geo	b	80	66	0
Carcoar ..	b	84	61	0·01
Casino ..	b	87	63	0
Cassilis ..	o	86	63	0·31
Clarence	b	85	69	0
C'nd'b'lin	b	99	51	0
Cooma ..	b	89	51	0
Coonab'n	b	91	53	0
Cowra ..	b	99	65	0·08
Deniliq'n	b	100	51	0
Dubbo ..	b	97	57	0·04
Eden	b	68	64	0
Euston ..	b	101	60	0
Forbes ..	b	90	65	0
Gl'n Inn's	b	91	59	0·07
Goulburn	b	88	59	0·03
Grafton ..	b	90	66	0·16
Gulgong	b	88	57	0
Gunned'h	b	94	67	0
Hay	b	96	64	0
Inverell ..	b	91	65	0·55
Kiandra	b	83	40	0
Lismore	b	88	68	0
Maitland	b	91	64	0
Marsdens	b	85	71	0
Menindie	b	93	75	0
Molong ..	b	93	54	0
M'r'ng'r'll	b	93	63	0·20
Moree ..	b	99	75	0
Moruya ..	b	82	66	0·21
Moss Vale	b	79	63	0·18
Mt. Hope	b	104	68	0
M. Vict'ria	b	86	50	0·41
Mudgee	b	95	56	0·12
M'rr'mb'h	b	93	62	0
M'rr'r'ndi	b	82	61	0
Mus'lbr'k	g	100	61	0
Narrabri	b	100	66	0
Newcastle	b	79	68	0
Orange ..	b	86	52	0
Picton ..	b	86	65	0·40
P. M'q'rie	b	85	63	0
P. St'ph'n	g	86	61	0
Q'nbeyan	b	86	62	0·04
Quirindi	b	91	61	0·09
Singleton	c	90	66	0
SYDNEY ..	b	78	65	0
Tamw'rth	t	92	62	1·49
Taralga ..	b	85	52	0·08
Taree ..	b	89	64	0
T'nt'rfield	c	86	57	0
Wagga ..	b	101	55	0
Walcha ..	o	84	54	0·68
Walgett ..	b	103	67	0
Warrah ..	b	89	61	0·04
W'ntw'rth	b	96	68	0
W'll'ng'ng	b	81	71	0
Young ..	b	99	58	0



H. C. RUSSELL
GOVERNMENT ASTRONOMER

NOTES EXPLANATORY OF MAP.

In the list of stations the column headed W.T. gives the state of the weather at 9 a.m., b standing for blue sky; c, detached clouds; d, drizzling rain; t, fog; g, gloomy; h, hazy; m, misty; n, frosty; o, overcast; p, passing showers; r, rain; s, snow; t, thunder; u, threatening. The next column, M'x gives the maximum temperature for previous 24 hours. M'n the corresponding minimum temperature; r'n, the rain for the previous 24 hours. The symbols used in the map are explained on the margin. At each coast station the wind symbol is placed like a vane pointing to the direction from which the wind is coming. A clear circle with it means fine weather; a circle with bar, cloudy weather; and a black spot, raining. Next to this symbol are placed figures denoting the number of miles the wind is moving per hour; next, a symbol showing the state of the sea; and, lastly, figures denoting the shade temperature at 9 a.m. The barometer curve shows the state of barometers round the coast from Perth to Cooktown:—Pt, Perth; Ay, Albany; Ea, Eucla; CB, Cape Borda; A, Adelaide; Re, Robe; P, Portland; M, Melbourne; W P, Wilson's Promontory; Go, Gabo; E, Eden; Ma, Moruya; C G Jervis Bay; Wg, Wollongong; S, Sydney; N, Newcastle; P M, Port Macquarie; C, Clarence River; B, Brisbane; R, Rockhampton; Ct, Cooktown. Inland the state of barometer is given in figures at Albury, Deniliquin, Wentworth Menindie, Bourke, and Alice Springs. The barometer curve enables one at a glance to trace the depressions, beginning with Western Australia, and passing along eastwards; northerly winds preceding them, and southerly following.

South Australia.—Generally fine and warm, with light S.E. to N.E. winds, fallen barometers, and smooth sea; thunderstorms during the night in parts of the colony, but no rain fallen. Extremes of barometers and temperature on the coast: Eucla, 30·04 and 68°; Farina, 29·86; and M'Donnell Bay, 62°. In Northern Territory: Daly Waters, 29·86 and 91°; Port Darwin, 29·74 and 86°.

Victoria.—Generally fine, with light easterly winds, steady barometers, and smooth sea. Extremes of barometers and temperature: Lakes Entrance, 30·11; Ballarat, 29·96; Horsham, 76°; and Portland, 62°.

Tasmania.—Generally fine, but more or less cloudy, with light north to east winds, risen barometers, and smooth sea. Extremes of barometers and temperature: Low Heads, 30·08 and 65°; Falmouth, 30·00 and 62°.

New Zealand.—Generally fine, with light N.E. winds on North Island, and N.W. winds on South Island. Barometers generally, 30·2.

New South Wales.—Generally fine and warm, with light N.E. to S.E. winds, almost steady barometers, and smooth sea. Light rain has fallen in the eastern division of the colony; heaviest near the range in north. Thunderstorms occurred yesterday at Bodalla and Mudgee, during the night at Picton, and this morning at Tamworth. Extremes of barometers and temperature at 9 a.m.: Port Macquarie, 30·06; Dubbo, 29·93; Bourke, 87°; and Mount Victoria, 65°. Reading of the standard barometer at Sydney, corrected to 32° Fahr. and mean sea level, at 9 a.m., 30·06. Extra station: Lake Cudgellico, max. 88°, min. 58°, fine, hot, and clear. For further particulars see map.

Queensland.—Generally fine, with S. to S.E. wind, and moderate sea. Extremes of barometers and temperature: Cooktown, 29·94 and 92°; Rockhampton, 29·92 and 78°.

3 P.M. OBSERVATIONS.

Victoria.—Portland, E.S.E., 34, fine, smooth sea, temperature 67°; Cape Otway, E.S.E. 28, fine, smooth sea, temperature, 58°; Wilson's Promontory, E., 13, fine but cloudy, smooth sea, temperature 76°; Lakes Entrance, E., 23, fine and hazy, temperature 72°.

New South Wales.—Menindie, calm, fine, and hot, temperature, 89°; Wentworth, S., fine, temperature 85°; Deniliquin, calm, fine, and hot, temperature 79°; Eden, N.E., 14, fine, smooth sea, temperature 75°; Moruya, N.E., 28, thunderstorm, smooth sea, temperature 76°; Cape St. George, N.E., 14, fine, smooth sea, temperature 74°; Sydney, E.N.E., 20, fine, and hot, moderate sea, temperature 76°; Newcastle, N.E., 14, fine, smooth sea, temperature 75°; Port Macquarie, E., 14, fine, smooth sea, temperature 83°; Walgett, S., 14, fine, temperature 94°; Dubbo, E., 14, fine, temperature 80°; Goulburn, N.E., fine, temperature 77°.

HEIGHT OF RIVERS ABOVE SUMMER LEVEL.

Macintyre: At Mungindi, 5 feet. Barwon: At Mogil Mogil, 5 feet; at Walgett, 6 feet. Namoi: At Walgett, low. Culgoa: At Goodooga, 2 feet 3 inches. Darling: At Brewarrina, 10 feet; at Bourke, 17 feet 9 inches; at Louth, 18 feet 6 inches; at Tilpa, 24 feet 9 inches; at Wilcannia, 27 feet 2 inches; at Menindie, 27 feet 8 inches; at Pooncarie, 23 feet 9 inches; at Wentworth, 15 feet. Murrumbidgee: At Gundagai, 3 feet; at Wagga, 2 feet 4 inches; at Hay, 3 feet 9 inches; at Balranald, 11 feet. Murray: At Albury, 1 foot 11 inches; at Euston, 10 feet 10 inches.

ASTRONOMICAL MEMORANDA FOR JANUARY 4.

Sun rises at 4.57, sets at 7.14; Moon rises 1.45 p.m., sets 12.24 a.m.; Mercury 3.36 a.m., 5.53 p.m.; Venus, 5.27 a.m., 7.46 p.m.; Mars, 6.55 a.m., 8.49 p.m.; Jupiter, 12.35 a.m., 1.40 p.m.; Saturn, 7.30 p.m., 5.23 a.m. Full moon, 10th; new moon, 24th.

High water at Fort Denison, 2.22 a.m., 2.54 p.m.

METEOROLOGICAL REPORTS AND MAP FOR JANUARY 4, 1887.

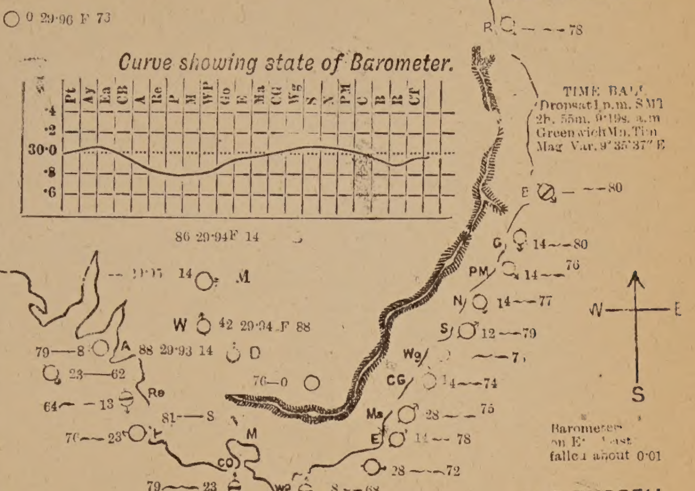
Stations	W.T.	Mx	Mn	R'n
Albury	b	98	63	0
Armidale	b	77	59	0·09
Balranald	b	111	68	0
Bathurst	b	69	55	0·66
Bend'm'r	u	92	53	0·21
Bodalla ..	b	86	66	0
Bourke ..	b	105	74	0
Br'w rrina	b	106	55	0
Bundarra	b	79	60	0
C'md'n H	b	85	69	0
C.St.Geo	b	80	67	0
Carcoar ..	b	80	65	0
Casino ..	b	87	63	0
Cassilis ..	b	83	67	0
Clarence	b	85	69	
C'nd'b'lin	b	99	57	
Cooma ..	f	92	51	0
Coonab'n	b	89	55	0
Cowra ..	b	95	66	0
Deniliq'n	b	103	66	0
Dubbo ..	b	95	63	0
Eden	b	79	67	0
Euston ..	b	108	68	0
Forbes ..	b	95	70	0
Gl'n Inn's	b	75	56	0·02
Gou.burn	b	90	55	0
Grafton ..	z	88	65	0·04
Gulgong	b	85	57	0
Gunned'h	b	94	67	0
Hay	b	98	64	0
Inverell ..	b	86	60	1·00
Kiandra	b	85	42	0
Lismore	b	88	70	0
Maitland	b	93	65	0
Marsdens	b	94	75	0
Menindie	b	94	76	0
Molong ..	b	96	57	0
M'r'ng'r'll	b	92	66	0
Moree ..	b	98	68	0
Moruya ..	b	81	64	0
Moss Vale	-	—	—	-
Mt. Hope	b	103	73	0
M. Vict'ria	b	81	54	0
Mudgee	b	94	57	0
M'rr'mb'h	b	96	70	0
M'rr'r'ndi	b	82	65	0
Mus'lbr'k	b	95	59	0
Narrabri	b	94	67	0
Newcastle	b	81	69	0
Orange ..	b	82	55	0
Picton .	b	83	60	0
P. M'q'rie	c	87	64	0·03
P. St'ph'n	g	86	60	0
Q'nbeyan	b	83	63	0·05
Quirindi	b	89	65	0
Singleton	b	85	71	0
SYDNEY ..	b	80	67	0·03
Tamw'rth	b	85	58	0
Taralga ..	b	87	55	0
Taree ..	b	89	68	0·01
T'nt'rfield	c	80	57	0·09
Wagga ..	b	102	63	0
Walcha ..	o	72	52	0·10
Walgett ..	b	99	68	0
Warrah ..	b	80	59	0
W'ntw'rth	b	106	74	0
W'll'ng'ng	h	86	64	0
Young ..	b	100	63	0

SYDNEY OBSERVATORY.
LATITUDE 33° 51' 41" S LONGITUDE 10h. 4m 50·81s. E

Average Annual Rainfall for 28 years............ 49·489
Total Rainfall for 1886 39·428
January 4 1887 0·027
Barometers corrected to 32° Fah. and Mean Sea Level

Fine, wind N — Cloudy, in E. — T. storm, wind S. — Rain, wind W
If it is CALM, the symbol is used without the arrow
Smooth sea. Heavy sea. Very heavy sea.

TIME BALL
Dropsat 1 p.m. S.M.T.
2h. 55m. 9·19s. a.m
Greenwich Mn. Tim
Mag Var. 9° 35' 37" E



Barometer on E. Coast fallen about 0·01

H.C. RUSSELL
GOVERNMENT ASTRONOMER

NOTES EXPLANATORY OF MAP.

In the list of stations the column headed W.T. gives the state of the weather at 9 a.m., b standing for blue sky; c, detached clouds; d, drizzling rain; f, fog; g, gloomy; h, hazy; m, misty; n, frosty; o, overcast; p, passing showers; r, rain; s, snow; t, thunder; u, threatening. The next column. M'x gives the maximum temperature for previous 24 hours. M'n the corresponding minimum temperature; r'n, the rain for the previous 24 hours. The symbols used in the map are explained on the margin. At each coast station the wind symbol is placed like a vane pointing to the direction from which the wind is coming. A clear circle with it means fine weather; a circle with bar, cloudy weather; and a black spot, raining. Next to this symbol are placed figures denoting the number of miles the wind is moving per hour; next, a symbol showing the state of the sea; and, lastly, figures denoting the shade temperature at 9 a.m. The barometer curve shows the state of barometers round the coast from Perth to Cooktown:—Pt, Perth; Ay, Albany; Ea, Eucla; CB, Cape Borda; A, Adelaide; Re, Robe; P, Portland; M, Melbourne; W P, Wilson's Promontory; Go, Gabo; E, Eden; Ma, Moruya; C G Jervis Bay; Wg, Wollongong; S, Sydney; N, Newcastle; PM, Port Macquarie; C, Clarence River; B, Brisbane; R, Rockhampton; Ct, Cooktown. Inland the state of barometer is given in figures at Albury, Deniliquin, Wentworth Menindie, Bourke, and Alice Springs. The barometer curve enables one at a glance to trace the depressions, beginning with Western Australia, and passing along eastwards; northerly winds preceding them, and southerly following.

Western Australia.—Generally fine, in places cloudy and sultry, with light S.E. to S.W. winds, and moderate sea. Extremes of barometers and temperature:—Esperance Bay, 30·05 and 67°; Cossack, 29·63; and Ashburton, 70°.

South Australia.—Generally fine, with scattered clouds, light southerly winds, slightly fallen barometers and smooth sea. Hot north of Peake; cool near the coast. Extremes of barometers and temperature on the coast: Eucla, 30·01; Farina, 29·82; Adelaide, 79·0; and M'Donnell Bay, 62°. In Northern Territory: Daly Waters, 29·86 and 90°; Port Darwin, 29·74 and 87°.

Victoria.—Generally cloudy and unsettled, with light N.E. to N.W. winds, fallen barometers, and smooth sea; sultry on the coast. 0·03 inch rain fallen at Cape Otway. Extremes of barometers and temperature: Lakes Entrance, 29·99; Horsham, 29·75; Echuca, 88°; and Wilson's Promontory, 68°.

Tasmania.—Generally cloudy and unsettled, with light variable winds and calms, fallen barometers, and smooth sea (rather rough sea off Circular Head). Extremes of barometers and temperature: Low Heads, 29·93; Hobart, 29·83; Falmouth, 69°; and Southport, 59°.

New Zealand.—Generally fine, with S.E. to S.W. winds. Barometers: In extreme north and south, 30·3; at Wellington, 30·2.

New South Wales.—Generally fine and warm, with light N. to E. and S.E. winds, steady barometers, and smooth sea. Light rain has fallen at scattered places in the eastern division; heaviest in the north. Extremes of barometers and temperature at 9 a.m.: Newcastle, 30·06; Deniliquin, 29·93; along the Lower Murray, 88°; and Cooma, 59°. Reading of the standard barometer at Sydney, corrected to 32° Fahr. and mean sea level, at 9 a.m., 30·054. Extra station: Lake Cudgellico, max. 80°, min. 74°, fine and hot. For further particulars see map.

Queensland.—Generally fine, with S. to S.E. wind, almost steady barometers, and smooth sea. Rainfall, 0·02 inch at Brisbane. Extremes of barometers and temperature: Brisbane, 29·97; Rockhampton, 29·91 and 78°; Cooktown, 93°.

3 P.M. OBSERVATIONS.

Victoria.—Portland, E.N.E., fine, smooth sea, temperature 64°; Cape Otway, W, 12, misty, cloudy, moderate sea; Melbourne, N.N.E., 12, cloudy, temperature 90°; Cape Schanck, N., 24, hot wind, smooth sea, temperature 76°; Wilson's Promontory, N.N.E., 12, misty, threatening, smooth sea, temperature 79°; Lakes Entrance, W., 6, lightning in west, temperature 81°.

New South Wales.—Wentworth, N., heavy thunderstorm, temperature 97°; Deniliquin, calm, dull, temperature 94°; Eden, N.E., 28, fine, smooth sea, temperature 78°; Moruya, N.E., 28, threatening, smooth sea, temperature 74°; Cape St. George, N., 42, fine, smooth sea, temperature 72°; Sydney, E.N.E., 20, fine, and hazy, smooth sea, temperature 76°; Newcastle, E., 14, fine, smooth sea, temperature 74°; Port Macquarie, E., 28, fine, smooth sea, temperature 86°; Clarence River, S.E., 14, fine, smooth sea, temperature 84°; Dubbo, calm, fine, temperature 82°; Goulburn, N.E., 14, fine, temperature 79°.

HEIGHT OF RIVERS ABOVE SUMMER LEVEL.

Macintyre: At Mungindi, 5 feet. Barwon: At Mogil Mogil, 5 feet; at Walgett, 6 feet. Namoi: At Walgett, low. Culgoa: At Goodooga, 2 feet 2 inches. Darling: At Brewarrina, 10 feet 6 inches; at Bourke, 17 feet 3 inches; at Louth, 15 feet 9 inches; at Tilpa, 24 feet 6 inches; at Wilcannia, 25 feet 10 inches; at Menindie, 27 feet 8 inches; at Pooncarie, 23 feet 8 inches; at Wentworth, 15 feet. Murrumbidgee: At Gundagai, 3 feet; at Wagga, 2 feet 4 inches; at Hay, 3 feet 6 inches; at Balranald, 11 feet. Murray: At Albury, 1 foot 10 inches; at Euston, 10 feet 11 inches.

ASTRONOMICAL MEMORANDA FOR JANUARY 5.

Sun rises at 4.58, sets at 7.14; Moon rises 2.43 p.m., sets 12.57 a.m.; Mercury 3.38 a.m., 5.56 p.m.; Venus, 5.29 a.m., 7.47 p.m.; Mars, 6.55 a.m., 8·48 p.m.; Jupiter, 12.31 a.m., 1.37 p.m.; Saturn, 7.26 p.m., 5.24 a.m. Full moon, 10th; new moon, 24th.

High water at Fort Denison—3.25 a.m., 4 p.m.

W'ntw rtn	b	108 63	0·01
W'll'ng'ng	b	87 67	0
Young ..	b	99 63	0

ceding them, and southerly following.

South Australia.—Generally fine, with light scattered clouds, on part of the coast; light S.E. to E. winds, rising barometers, and smooth sea. Extremes of barometers and temperature on the coast: Cape Borda, 30·10; Farina, 29·86; Adelaide, 72°; and Robe, 65°. In Northern Territory: Daly Waters, 29·87 and 89°; Port Darwin, 29·76 and 89°.

Victoria.—Generally fine but cloudy, with light southerly winds, risen barometers, and smooth sea. Rainfall: Omeo, 0·10; Melbourne, 0·06; and Ballarat, 0·01 inch. Extremes of barometers and temperature: Cape Otway, 30·12 and 61°; Echuca, 29·91 and 82°.

Tasmania.—Generally fine, but cloudy, with light variable winds and calms, risen barometers, and moderate sea. Rainfall: 0·06 inch at Hobart and Low Heads, 0·02 at Circular Heads. Extremes of barometers and temperature at 9 a.m.: Low Heads, 29·97; Falmouth, 29·92; Southport, 68°.; and Hobart, 60°.

New Zealand.—Generally fine, with N.E. to S.E. winds on North Island, and N.W. wind at Bluff. Barometers: In extreme north and south, 30·3; at Wellington, 30·2.

New South Wales.—Generally fine and warm, with light N.E. to S.E. winds, almost steady barometers, and smooth sea. Light rain has fallen at a few scattered stations; heaviest on and near the range in south. Extremes of barometers and temperature at 9 a.m.: Wentworth, 30·05; Gabo Island, 29·94; Bourke, 91°; and Armidale, 67°. Reading of the standard barometer at Sydney, corrected to 32° Fahr. and mean sea level, at 9 a.m., 30·015. Extra station: Lake Cudgellico, max. 88°, min. 70°, fine and hot. For further particulars see map.

Queensland.—Generally fine and clear, with light S. to S.E. winds, almost steady barometers, and smooth sea. Showery at Brisbane, 0·05 inch having already fallen; rough sea off Townsville. Extremes of barometers and temperature: Cooktown, 30·02 and 94°; Rockhampton, 29·94 and 76°.

3 P.M. OBSERVATIONS.

Victoria.—Portland, E.N.E., 18, fine, smooth sea, temperature 68°; Cape Otway, S.W. 13, fine, smooth sea, temperature 70°; Melbourne, S.S.W., 13, fine, temperature 68; Cape Schanck, S., S., fine but cloudy, smooth sea, temperature 69°; Wilson's Promontory, W., 18, fine but cloudy, smooth sea, temperature 68°; Lakes Entrance, W., 18, fine but cloudy, temperature 71°.

New South Wales.—Menindie, calm, clear and hot, temperature 88°; Wentworth, S., fine and clear, temperature 8[illegible]°; Deniliquin, calm, fine and warm, temperature 91°; Eden, S.E., 14, fine, smooth sea, temperature 72°; Moruya, N.E., 28, fine, temperature 77°; Cape St. George, N.E., 42, fine, smooth sea, temperature 75°; Sydney, E.N.E., 18, fine and warm, smooth sea, temperature 76°; Newcastle, N.E., 28, fine, smooth sea, temperature 76°; Port Macquarie, E., 28, fine, smooth sea, temperature 85°; Clarence River, S.S.E., 10, fine, heavy sea, temperature 83°; Walgett, S., fine, temperature 95°; Dubbo, calm, fine, temperature 86°; Goulburn, S.E., fine, temperature 81°.

HEIGHT OF RIVERS ABOVE SUMMER LEVEL.

Macintyre: At Mungindi, 5 feet. Barwon: At Mogil Mogil 4 feet; at Walgett, 6 feet. Namoi: At Walgett, low. Culgoa: At Goodooga, low. Darling: At Brewarrina, 9 feet [illegible] inches; at Bourke, 17 feet; at Louth, 13 feet 6 inches; at Tilpa, [illegible] feet 3 inches; at Wilcannia, 24 feet 8 inches; at Menindie, 27 feet 8 inches; at Pooncarie, 23 feet 8 inches; at Wentworth, 15 feet. Murrumbidgee: At Gundagai, 2 feet 6 inches; at Wagga, [illegible] feet 2 inches; at Hay, 3 feet 3 inches; at Balranald, 11 feet. Murray: At Albury, 2 feet; at Euston, 10 feet 11 inches.

ASTRONOMICAL MEMORANDA FOR JANUARY 6.

Sun rises at 4.58, sets at 7.14; Moon rises 3.41 p.m., sets 1.33 a.m.; Mercury, 3.40 a.m., 5.59 p.m.; Venus, 5.3[illegible] a.m., 7.48 p.m.; Mars, 6.55 a.m., 8.47 p.m.; Jupiter, 12.27 a.m., [illegible] p.m.; Saturn, 7.22 p.m., 5.20 a.m. Full moon, 10th; new moon, 24th.

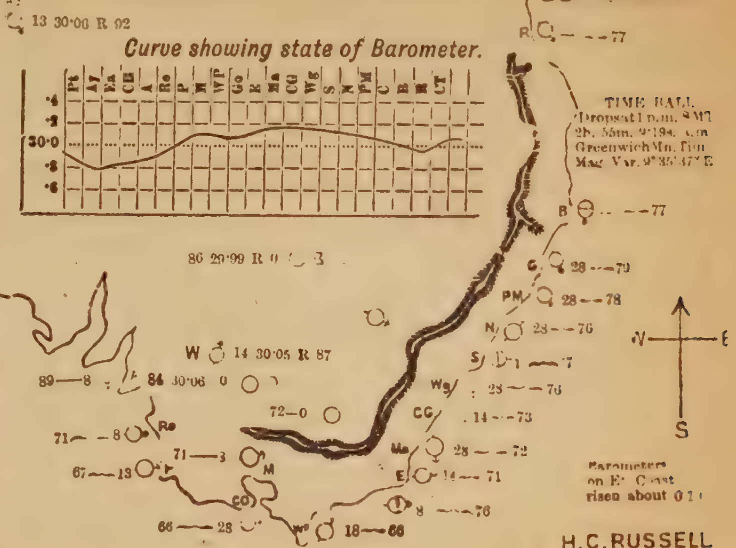
High water at Fort Denison—4.35 a.m., 5.10 p.m.

METEOROLOGICAL REPORTS AND MAP FOR JANUARY 6, 1887

Stations	wt	Mx	mn	r'n
Albury	b	97	64	0
Armidale	g	95	57	0·03
Balranald	b	114	68	0
Bathurst	c	86	55	0·03
Bend'm'r	b	83	60	0
Bodalla	g	87	63	0
Bourke	b	108	72	0
Br'w rrina	b	108	59	0
Bundarra	b	83	62	0
C'md'n H	c	83	71	0
C.St.Geo	b	80	63	0
Carcoar	b	84	61	0·50
Casino	c	85	64	0·02
Cassilis	c	87	67	0
Clarence	b	87	71	0
C'nd'b'lin	b	103	55	0·04
Cooma	g	86	53	0·01
Coonab'n	b	94	60	0
Cowra	b	96	67	0·41
Deniliq'n	b	105	67	0
Dubbo	b	98	62	0·68
Eden	b	76	64	0
Euston	b	105	68	0
Forbes	b	97	68	0
Gl'n Inn's	r	85	57	0
Gou burn	b	92	57	0
Grafton	b	86	66	0·03
Gulgong	b	89	57	0·17
Gunned'h	b	95	69	0
Hay	b	101	72	0
Inverell	b	85	61	0
Kiandra	b	90	49	0·09
Lismore	b	86	69	0·15
Maitland	b	95	65	0·02
Marsdens	b	95	78	0·06
Menindie	b	92	77	0
Molong	b	99	59	0·39
M'r'ng'r'll	b	95	68	0
Moree	b	98	68	0
Moruya	b	83	65	0
Moss Vale	b	82	60	0·06
Mt. Hope	b	104	69	0
M.Vict'ria	r	82	53	0
Mudgee	b	91	55	0·48
M'rr'mb'h	b	95	73	0
M'rr'r'ndi	b	85	65	0
Mus'lbr'k	b	98	63	0
Narrabri	b	97	64	0
Newcastle	b	78	69	0·17
Orange	b	82	54	0·48
Picton	u	84	60	0
P. M'q'rie	b	84	66	0
P. St'ph'n	g	87	64	0·17
Q'nbeyan	b	83	62	0
Quirindi	b	91	69	0
Singleton	g	87	71	0
SYDNEY	b	81	68	0·09
Tamw'rth	b	90	59	0
Taralga	g	88	56	0
Taree	b	89	64	0·06
T'nt'rfield	c	80	58	0
Wagga	b	101	63	0
Walcha	b	78	50	0
Walgett	b	101	69	0
Warrah	b	91	64	0

SYDNEY OBSERVATORY.
LATITUDE 33° 51' 41" S LONGITUDE 10h. 4m 50·81s. E

Average Annual Rainfall for 28 years...... .. 49·489
Total Rainfall for 1886 39·426
From January 1 to January 6 1887 0·115
Barometers corrected to 32° Fah. and Mean Sea Level



Fine, wind N. Cloudy, wind E. T. storm, wind S. Rain, wind W. If it is CALM, the symbol is used without the arrow. Smooth sea. Heavy sea. Very heavy sea.

H.C. RUSSELL
GOVERNMENT ASTRONOMER

NOTES EXPLANATORY OF MAP.

In the list of stations the column headed W.T. gives the state of the weather at 9 a.m., b standing for blue sky; c, detached clouds; d, drizzling rain; f, fog; g, gloomy; h, hazy; m, misty; n, frosty; o, overcast; p, passing showers; r, rain; s, snow; t, thunder; u, threatening. The next column, M'x gives the maximum temperature for previous 24 hours. M'n the corresponding minimum temperature; r'n, the rain for the previous 24 hours. The symbols used in the map are explained on the margin. At each coast station the wind symbol is placed like a vane pointing to the direction from which the wind is coming. A clear circle with it means fine weather; a circle with bar, cloudy weather; and a black spot, raining. Next to this symbol are placed figures denoting the number of miles the wind is moving per hour; next, a symbol showing the state of the sea; and, lastly, figures denoting the shade temperature at 9 a.m. The barometer curve shows the state of barometers round the coast from Perth to Cooktown:—Pt, Perth; Ay, Albany; Ea, Eucla; CB, Cape Borda; A, Adelaide; Re, Robe; P, Portland; M, Melbourne; W P, Wilson's Promontory; Go, Gabo; E, Eden; Ma, Moruya; C G Jervis Bay; Wg, Wollongong; S, Sydney; N, Newcastle; P M, Port Macquarie; C, Clarence River; B, Brisbane; R, Rockhampton; Ct, Cooktown. Inland the state of barometer is given in figures at Albury, Deniliquin, Wentworth Menindie, Bourke, and Alice Springs. The barometer curve enables one at a glance to trace the depressions, beginning with Western Australia, ar...

W'll'ng'ng	g	84 66	0
Young ..	b	102 61	0

Western Australia.—Generally fine, with scattered clouds in places, light S.E. to S.W. winds, fallen barometers, and smooth sea. Extremes of barometers and temperaturet: Geraldton, 29·96; Cossack, 29·70; Ashburton, 88·; and Esperance Bay, 67·.

South Australia.—Generally fine and warm, with light N.E. to S.E. winds, fallen barometers, and smooth sea. Extremes of barometers and temperature on the coast: Robe, 29·99; Eucla, 29·82; Adelaide, 89·; and M'Donnell Bay, 62·. In Northern Territory: Port Darwin, 29·78 and 86·; Daly Waters, 29·92 and 87·: Rainfall: Port Darwin, 0·24; and Esperance Bay, 0·04 inch.

Victoria.—Generally fine, with light N.E. to E. winds, steady barometers, and smooth to moderate sea. Misty and squally at places on the coast. Extremes of barometers and temperature: Lakes' Entrance, 30·12; Ballarat, 29·95 and 84·; Cape Schanck, 57·; Rainfall: Omeo, 0·02 inch.

Tasmania.—Generally fine, with light scattered clouds, light N. to E. winds, risen barometers, and moderate sea. Extremes of barometers and temperature: Falmouth, 30·22; Southport, 30·19; Low Heads, 66·; and Hobart, 60·.

New Zealand.—Generally fine, with N.W. winds, and barometers at 30·2. Passing showers, with strong N.E. wind, and rough sea in extreme north.

New South Wales.—Generally fine and clear west of range, more or less cloudy and unsettled in the eastern division, and light rain falling at Mount Victoria and Glen Innes; winds generally are fresh and cool, from N.E. to S.E. and S.; barometers have risen, and the sea is smooth; light rain has fallen in the eastern division, heaviest in the districts around Dubbo, Orange, and Carcoar. Extremes of barometers and temperature at 9 a.m.: Along the coast south of Sydney, 30·17; Dubbo, 29·98; Wentworth and Mount Victoria, 57· Reading of the standard barometer at Sydney, corrected to 32· Fahr. and mean sea level, at 9 a.m., 30·163. Extra station: Lake Cudgellico, max. 80·, min. 68·, dull weather. For further particulars see map.

Queensland.—Generally fine, with light S. to S.E. winds and calms; almost steady barometers, and smooth to moderate sea. Extremes of barometers and temperature: Cooktown, 30·04 and 94·; Rockhampton, 29·92 and 77·.

3 P.M. OBSERVATIONS.

Victoria.—Portland, E.S.E., 18, fine, smooth sea, temperature 73·; Cape Otway, E., 36, fine, smooth sea, temperature 70·; Melbourne, N.W, 12, fine, temperature 96·, barometer falling; Cape Schanck, E., 24, fine, hazy, smooth sea, temperature 70·; Wilson's Promontory, N.E., 24, squally, moderate sea, temperature 72·; Lakes Entrance, E., 24, fine, temperature 78·.

New South Wales.—Eden, E.N.E., 14, fine and clear, smooth sea, temperature 75·; Moruya, N.E., 28, fine, smooth sea, temperature 77·; Cape St. George, S., 14, fine, smooth sea, temperature 78·; Sydney, E., 12, fine and cool, smooth sea, temperature 76·; Newcastle, S.E., 28, fine, smooth sea, temperature 76·; Port Macquarie, S.E., 28, unsettled, moderate sea, temperature 94·; Clarence River, S., 28, fine, moderate sea, temperature 78·; Walgett, S.E., 14, fine, temperature 94·; Dubbo, E., 14, fine and clear, temperature 81·; Goulburn, E.N.E., 14, fine, temperature 75·.

HEIGHT OF RIVERS ABOVE SUMMER LEVEL.

Macintyre: At Mungindi, 5 feet. Barwon: At Mogil Mogil, 4 feet; at Walgett, 6 feet. Namoi: At Walgett, low. Culgoa: At Goodooga, low. Darling: At Brewarrina, 8 feet 10 inches; at Bourke, 15 feet 6 inches; at Louth, 16 feet; at Tilpa, 24 feet; at Menindie, 27 feet 8 inches; at Pooncarie, 23 feet 8 inches; at Wentworth, 15 feet. Murrumbidgee: At Gundagai, 2 feet 6 inches; at Wagga, 2 feet 1 inche; at Hay, 3 feet; at Balranald, 10 feet 11 inches. Murray: At Albury, 1 foot 9 inches; at Euston, 10 feet 11 inches.

ASTRONOMICAL MEMORANDA FOR JANUARY 7.

Sun rises at 4.59, sets at 7.14; Moon rises 4.40 p.m., sets 2.15 a.m.; Mercury, 3.41 a.m., 5.1 p.m.; Venus, 5.34 a.m., 7.48 p.m.; Mars, 6.55 a.m., 8.45 p.m.; Jupiter, 12.24 a.m., 1.30 p.m.; Saturn, 7.17 p.m., 5.15 a.m. Full moon, 10th; new moon, 24th.

High water at Fort Denison—5.44 a.m., 6.14 p.m.

METEOROLOGICAL ABSTRACT, DECEMBER, 1886, with results for the same month during the preceding 27 years:—

—	Barometer at 32· Fah. and mn. sea lev'l.	Temperature in Shade.			Rainfall.	
		Mean Max.	Mean Min.	Mean.	Amount Inches.	No. of days.
1886: December ...	29·994	75·1	63·3	69·2	4·344	15
Average for 28 years ...	29·905	77·2	62·4	69·7	2·263	12
Monthly Extremes:						
Highest ...	30·106	79·8	64·2	72·0	7·804	18
Year ...	1871	1868-77	1885	1868	1870	1864
Lowest ...	29·755	73·4	59·5	64·5	0·453	5
Year ...	1884	1860	1865	1859	1876	1874

Wind.—Prevailing direction, N.E.; average prevailing direction for 28 years, N.E.; December, 1886, mean miles per hour, 10·8.

Temperature.—Highest shade temperature, 87·1, on the 4th; highest shade temperature in any December since 1859, 103·8, on the 22nd, 1871; lowest shade temperature, 52·8, on the 10th; lowest shade temperature in any December since 1859, 49·3, on the 2nd, 1859.

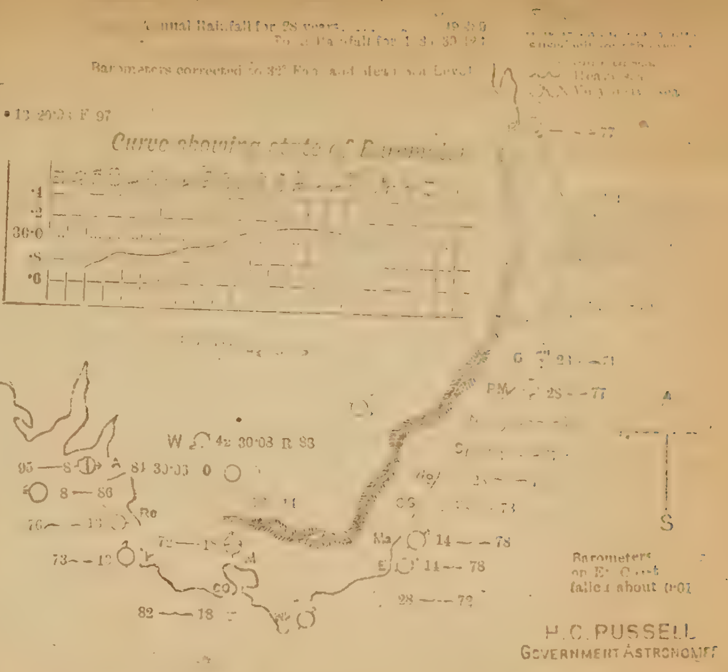
Rainfall.—Greatest fall in one day, 1·424, on the 13th; greatest fall in one day in any December since 1859, 2·604, on the 29th, 1873.

H. C. RUSSELL, Government Astronomer.

Sydney Observatory, January 6, 1887.

METEOROLOGICAL [illegible]

Stations	W.T.	M'x	M'n	R'n
[illegible]	b	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	b	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	b	[illegible]	[illegible]	[illegible]
[illegible]	b	[illegible]	[illegible]	[illegible]
Bourke ..	b	[illegible]	[illegible]	[illegible]
Br'w'rrina	b	10[illegible]	63	[illegible]
[illegible]	b	83	61	0
C'md'n H.	b	81	68	0·19
C. St. Geo	g	84	63	0
[illegible]	b	75	61	0
Casino ..	b	84	63	0·46
Cassilis ..	o	83	67	0
Clarence	c	85	71	[illegible]
C'nd'b'lin	b	[illegible]	[illegible]	[illegible]
Cooma ..	b	87	52	0
Coonab'n	b	89	59	0
Cowra ..	b	95	66	0
Deniliq'n	b	106	72	0
Dubbo ..	b	88	60	0
Eden	b	82	64	0
Euston ..	b	109	72	0
Forbes ..	b	95	65	0
Gl'n Inn's	b	87	56	0
Goulburn	b	93	55	0
Grafton ..	g	85	66	0·10
Gulgong	c	83	55	0
Gunned'h	b	92	67	0
Hay	b	99	74	0
Inverell ..	b	84	62	0
Kiandra	b	79	40	0
Lismore	b	85	69	0·23
Maitland	b	86	67	0
Marsdens	b	91	71	0
Menindie	b	98	80	0
Molong ..	b	88	54	0
M'r'ng'r'll	b	88	65	0
Moree ..	b	98	68	0
Moruya ..	b	81	62	0
Moss Vale	b	76	60	0
Mt. Hope	b	104	70	0
M. Vict'ria	b	82	53	0
Mudgee	c	88	56	[illegible]
M'rr'mb'h	b	86	59	0
M'rr'r'ndi	b	81	66	0
Mus'lbr'k	b	92	61	0
Narrabri	b	83	63	0
Newcastle	b	79	68	0·11
Orange ..	b	77	52	0
Picton ..	u	80	61	0·01
P. M'q'rie	b	84	61	[illegible]
P. St'ph'n	b	[illegible]	[illegible]	0
Q'b'y'n	g	8[illegible]	61	0
Quirindi	g	91	65	0
Singleton	b	85	71	0
SYDNEY ..	b	80	70	0
Tamw'rth	–	—	—	–
Taralga ..	b	74	52	0
Taree ..	g	84	66	0·37
T'nt'rfield	g	76	58	0·06
Wagga ..	b	93	66	0
Walcha ..	b	75	51	0·03
Walgett ..	b	100	69	0
Warrah ..	u	86	61	0
Wh'tw'rth	b	109	76	0
W'll'ng'ng	c	85	70	0·04
Young ..	b	89	59	0·03



NOTES EXPLANATORY OF MAP.

In the list of stations the column headed W.T. gives the state of the weather at 9 a.m., b standing for blue sky; c, detached clouds; d, drizzling rain; f, fog; g, gloomy; h, hazy; m, misty; n, frosty; o, overcast; p, passing showers; r, rain; s, snow; t, thunder; u, threatening. The next column, M'x gives the maximum temperature for previous 24 hours. M'n the corresponding minimum temperature; r'n, the rain for the previous 24 hours. The symbols used in the map are explained on the margin. At each coast station the wind symbol is placed like a vane pointing to the direction from which the wind is coming. A clear circle with it means fine weather, a circle with bar, cloudy weather; and a black spot, raining. Next to the symbol are placed figures denoting the number of miles the wind is moving an hour; next, a symbol shows the state of the sea; and, lastly, figures denoting the shade temperature at 9 a.m. The barometer curve shows the state of barometers round the coast from Perth to Cooktown:—Pt, Perth; Ay, Albany; Ea, Eucla; CB, Cape Borda; A, Adelaide; Re, Robe; P, Portland; M, Melbourne; WP, Wilson's Promontory; Go, Gabo; E, Eden; Ma, Moruya; CG Jervis Bay; Wg, Wollongong; S, Sydney; N, Newcastle; PM, Port Macquarie; C, Clarence River; B, Brisbane; R, Rockhampton; Ct, Cooktown. Inland the state of barometer is given in figures at Albury, Deniliquin, Wentworth Menindie, Bourke, and Alice Springs. The barometer curve enables one at a glance to trace the depressions, beginning with Western Australia, and passing along eastwards; northerly winds preceding them, and southerly following.

Western Australia.—Generally fine, with light southerly winds, rising barometers, and smooth to moderate sea. Extremes of barometers and temperature: Perth, 29·97; Cossack, 29·66; Ashburton, 87·; and Esperance Bay, 66·.

South Australia.—Generally fine and hot, with light scattered clouds in places, light variable winds, chiefly northerly, fallen barometers, and smooth sea. Extremes of barometers and temperature on the coast: Robe, 29·88; Eucla, 29·72; M'Donnell Bay, 72·; and Adelaide, 95·. In Northern Territory: Daly Waters, 30·00 and 88·; Port Darwin, 29·78 and 83·. Rainfall: Port Darwin, 0·29; Yam Creek, 0·35 inch.

Victoria.—Generally fine, with light clouds in places, light north to east winds, fallen barometers, and moderate to rough sea. Sultry, with hot winds blowing on the coast; lightning all night to west at Cape Otway. Extremes of barometers and temperature: Omeo, 30·09; Ballarat, 29·92; Echuca, 84·; and Wilson's Promontory, 70·.

Tasmania.—Generally fine and sultry, with light north to east winds, fallen barometers, and smooth sea. Extremes of barometers and temperature: Falmouth, 30·06; Hobart, 29·95 and 78·; and Low Heads, 67·.

New Zealand.—Generally fine, with variable winds. Barometers: On North Island, 30·2, and in extreme south 30·3.

New South Wales.—Generally fine west of the range, cloudy at scattered places on and near the coast, with light easterly winds, almost steady barometers, and smooth sea. Light rain has fallen in coast districts, heaviest in north. Extremes of barometers and temperature at 9 a.m.: Wollongong, 30·16; Dubbo, 30·02; Wentworth, 88·; and Mount Victoria, 62·. Reading of the standard barometer at Sydney, corrected to 32· Fahr. and mean sea level, at 9 a.m., 30·155. Extra station: Lake Cudgel-

3 P.M. OBSERVATIONS.

Victoria.—Portland, S.E., 13, fine and sultry, smooth sea, temperature 85·; Cape Otway, N.E., 28, overcast and threatening, smooth sea, temperature 8[illegible]·; Melbourne, W.S.W., 13, cloudy, temperature 76·; Cape Schanck, N.N.E., 13, cloudy and misty, smooth sea, temperature 76·; Wilson's Promontory, calm, cloudy, and sultry, smooth sea, temperature 82·; Lakes' Entrance, E., 23, fine and hazy, temperature 80·.

New South Wales.—Menindie, calm, fine, temperature 93·; Deniliquin, calm, fine and warm, temperature 95·; Eden, N.E., 28, fine, smooth sea, temperature 76·; Moruya, N.E., 28, fine, moderate sea, temperature 76·; Cape St. George, N., 14, fine, smooth sea, temperature 74·; Sydney, E.N.E., 11, fine and warm, smooth sea, temperature 76·; Newcastle, E., 14, fine, smooth sea, temperature 7[illegible]·; Port Macquarie, S.E., 25, fine, moderate sea, temperature 8[illegible]·; Clarence River, S.S.E., 28, fine, rather heavy sea, temperature 81·; Dubbo, E., 14, fine, temperature 80·; Goulburn, N.E., 14, dull, temperature 76·.

HEIGHT OF RIVERS ABOVE SUMMER LEVEL.

Macintyre: At Mungindi, 5 feet. Barwon: At Mogil Mogil, 4 feet; at Walgett, 5 feet 10 inches. Namoi: At Walgett, low. Culgoa: At Goodooga, low. Darling: At Brewarrina, [illegible] feet 6 inches; at Bourke, 16 feet 3 inches; at Louth, 15 feet 10 inches; at Tilpa, 2[illegible] feet [illegible] inches; at Wilcannia 2[illegible] feet [illegible] inches; at Menindie, 27 feet 4 inches; at Pooncarie, 23 feet [illegible] inches; at Wentworth, 1[illegible] feet. Murrumbidgee: At Gundagai, [illegible] feet; at Wagga, 2 feet; at Hay, 2 inches; at Balranald, [illegible] feet [illegible] inches. Murray: At Albury, 1 foot 9 inches; at Euston, 10 feet 11 inches.

ASTRONOMICAL MEMORANDA FOR JANUARY 8.

Sun rises at [illegible], sets at 7.14; Moon rises 5.40 p.m., sets

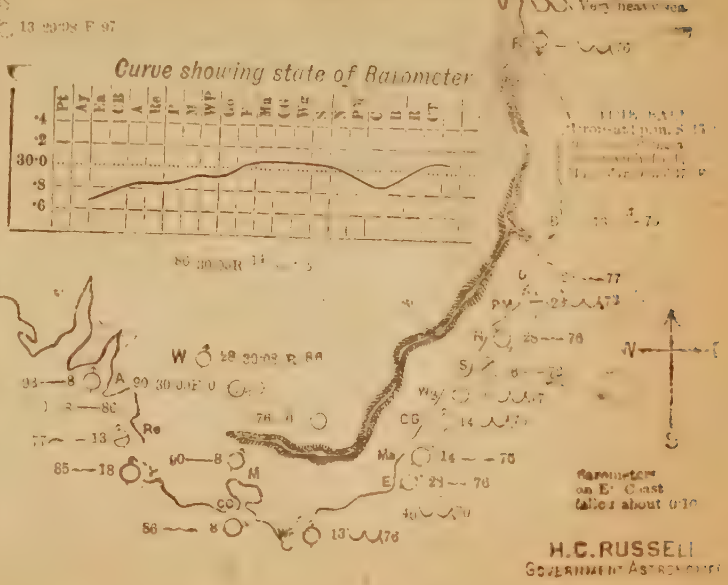
Young ..	b 102 61	0

METEOROLOGICAL REPORTS AND MAP FOR JANUARY 8, 1887.

Stations	wt	Mx	mn	r'n
Albury	b	95	66	0
Armidale	b	69	58	0
Balranald	b	114	65	0
Bathurst	b	95	52	0
Bend'm'r	b	80	51	0
Bodalla	b	84	59	0
Bourke	b	103	73	0
Br'w'rrina	b	102	56	0
Bundarra	b	83	41	0
C'md'n H	c	79	63	0·00
C. St. Geo	b	80	63	0
Carcoar	b	97	63	0
Casino	b	84	60	0·10
Cassilis	c	83	67	0
Clarence	b	86	70	0
C'nd'b'lin	b	96	56	0
Cooma	b	93	54	0
Coonab'n	b	89	54	0
Cowra	b	98	68	0
Deniliq'n	b	105	68	0
Dubbo	b	92	58	0
Eden	b	80	57	0
Euston	b	110	65	1·40
Forbes	b	95	67	0
Gl'n Inn's	b	82	54	0
Goulburn	b	89	52	0
Grafton	b	85	65	0·01
Gulgong	b	82	55	0
Gunned'h	b	91	67	0
Hay	b	99	69	0
Inverell	b	84	60	0
Kiandra	b	88	48	0
Lismore	b	82	67	0·09
Maitland	b	87	65	0·09
Marsdens	b	91	72	0
Menindie	b	85	75	0
Molong	b	90	50	0
M'r'ng'r'll	b	91	64	0
Moree	b	96	68	0
Moruya	b	81	63	0
Moss Vale	b	78	58	0
Mt. Hope	b	100	70	0
M. Vict'ria	b	84	49	0
Mudgee	b	88	55	0
M'rr'mb'h	b	90	66	0
M'rr'r'ndi	b	81	64	0·17
Mus'lbr'k	c	93	52	0
Narrabri	b	90	66	0
Newcastle	b	82	69	0
Orange	b	79	52	0
Picton	c	80	55	0
P. M'q'rie	g	82	72	0·26
P. St'ph'n	g	81	62	0
Q'nbeyan	b	78	67	0
Quirindi	b	91	64	0
Singleton	b	85	66	0
Sydney	b	80	65	0
Tamw'rth	-	—	—	-
Taralga	b	81	51	0
Taree	b	83	66	0·17
T'nt'rfield	b	77	51	0
Wagga	b	98	65	0
Walcha	b	73	43	0·01
Walgett	b	97	69	0
Warrah	b	86	60	0
W'ntw'rth	b	109	70	0
W'll'ng'ng	b	97	63	0
Young	b	92	58	0

SYDNEY OBSERVATORY.
LATITUDE 33° 51' 41" S. LONGITUDE 10h. 4m. 50·81s. E.

Average Annual Rainfall for 25 years ... 49·[illegible]
Total Rainfall for 1886 ... 59·[illegible]
From January 1 to January 8, 1887 ... 0·117
[illegible] ... Fah. and Mean Sea Level



H. C. RUSSELL
GOVERNMENT ASTRONOMER

NOTES EXPLANATORY OF MAP.

In the list of stations the column headed W.T. gives the state of the weather at 9 a.m., b standing for blue sky; c, detached clouds; d, drizzling rain; f, fog; g, gloomy; h, hazy; m, misty; n, frosty; o, overcast; p, passing showers; r, rain; s, snow; t, thunder; u, threatening. The next column, M'x gives the maximum temperature for previous 24 hours. M'n the corresponding minimum temperature; r'n, the rain for the previous 24 hours. The symbols used in the map are explained on the margin. At each coast station the wind symbol is placed like a vane pointing to the direction from which the wind is coming. A clear circle with it means fine weather; a circle with bar, cloudy weather; and a black spot, raining. Next to this symbol are placed figures denoting the number of miles the wind is moving per hour; next, a symbol showing the state of the sea; and, lastly, figures denoting the shade temperature at 9 a.m. The barometer curve shows the state of barometers round the coast from Perth to Cooktown: P, Perth; Ay, Albany; Ea, Eucla; CB, Cape Borda; A, Adelaide; Re, Robe; P, Portland; M, Melbourne; W P, Wilson's Promontory; Go, Gabo; E, Eden; Ma, Moruya; C J, Jervis Bay; Wg, Wollongong; S, Sydney; N, Newcastle; P M, Port Macquarie; C, Clarence River; B, Brisbane; R, Rockhampton; Ct, Cooktown. Inland the state of barometer is given in figures at Albury, Deniliquin, Wentworth, Menindie, Bourke, and Alice Springs. The barometer curve enables one at a glance to trace the depressions, beginning with Western Australia, and passing along eastwards; northerly winds preceding them, and southerly following.

South Australia.—Fine and hot throughout, with light N. to N.E. winds, fallen barometers, and moderate sea. Extremes of barometers and temperature on the coast: Port Augusta, 29·86; Eucla, 89·67; Adelaide, 28·; and M'Donnell Bay 64·. In Northern Territory: Daly Waters, 29·95 and 87·; Port Darwin, 29·80 and 84·.

Victoria.—Generally fine and warm, with light N. to N.E. winds and calms, fallen barometers, and moderate to rough sea. Extremes of barometers and temperature: Omeo, 30·06; Portland, 29·86; Lakes' Entrance, 61·; and Echuca, 90·. Rainfall: Ballarat, 0·34; Omeo, 0·13; and Cape Otway, 0·05 inch.

New Zealand.—Generally fine, with light northerly winds and calms. Barometers: In extreme north, 30·3; in central and south parts, 30·2.

New South Wales.—Generally fine, with clouds in scattered places, light N.E. to S.E. and E. winds, falling barometers, and moderate to heavy sea. Light rain has fallen at a few scattered stations. Extremes of barometers and temperature at 9 a.m.: Wentworth, 80·03; Dubbo, 30·01; Deniliquin, 90; and Goulburn, 64·. Reading of the standard barometer at Sydney, corrected to 32° Fahr. and mean sea level, at 9 a.m., 30·056. Extra station: Lake Cudgellico, max. 98·, min. 70·, fine and warm. For further particulars see map.

Queensland.—Generally fine, with light S. to S.E. winds, steady barometers, and moderate to rough sea. Extremes of barometers and temperature: Cooktown, 30·06 and 92; Brisbane, 29·94 and 75·.

3 P.M. OBSERVATIONS.

New South Wales.—Menindie, calm, fine, [illegible] Wentworth, S., fine, hot, temperature 87·; [illegible] hot, temperature 97·; Eden, N.E., [illegible] temperature 74·; Moruya, N.E., 28, [illegible] 76·5; Cape St. George, N.N.E., temperature 76·; Sydney, E., light, fine, smooth sea; Newcastle, E.S.E., light, fine, smooth sea, temperature 75·; Port Macquarie, S., cloudy, [illegible] sea, temperature [illegible]; Clarence River, S.E., fine, [illegible] sea, temperature 78·; Goulburn, E., light, fine, temperature 78·.

HEIGHT OF RIVERS ABOVE SUMMER LEVEL.

Macintyre: At Mungindi, 5 feet. Barwon: At Mogil Mogil 4 feet, at Walgett, 5 feet 8 inches. Namoi: At Walgett, low. Culgoa: At Goodooga, low. Darling: At Brewarrina, [illegible] feet, at Bourke, 15 feet; at Louth, 15 feet 6 inches; at [illegible] 31 feet 6 inches; at Wilcannia, 25 feet 2 inches; at Menindie, 27 feet 3 inches; at Pooncarie, 23 feet 8 inches, at Wentworth, 15 feet. Murrumbidgee: At Gundagai, 2 feet; at Wagga, [illegible] feet 9 inches; at Hay, 2 feet 3 inches; at Balranald, 10 feet. Murray: At Albury, 1 foot 7 inches; at Euston, 10 feet 11 inches.

ASTRONOMICAL MEMORANDA FOR JANUARY 10.

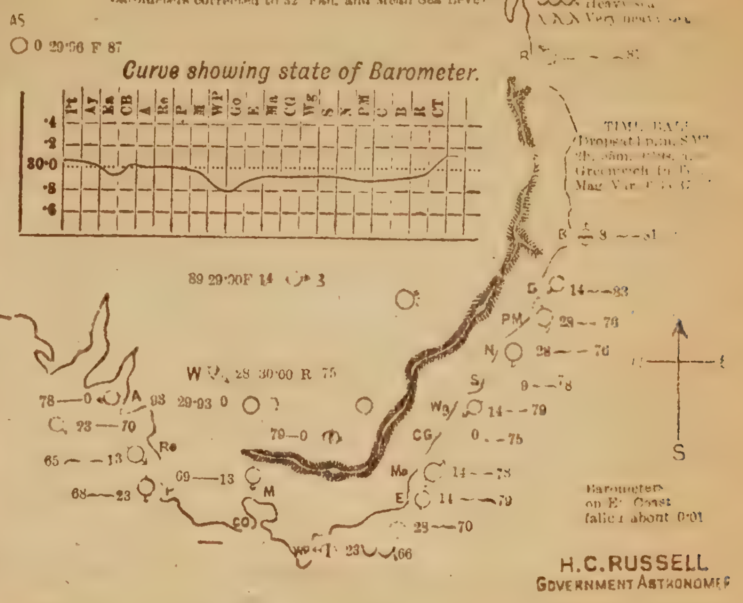
Sun rises at 5·2, sets at 7·13; Moon rises 7·34 p.m., sets 4·51 a.m.; Mercury, 3·48 a.m., 6·10 p.m.; Venus, 5·40 a.m., 7·51 p.m.; Mars, 6·55 a.m., 8·40 p.m.; Jupiter, 12·13 a.m., 1·20 p.m.; Saturn, 7·4 p.m., 5·2 a.m. Full moon, 10th; new moon, 24th. High water at Fort Denison—8·26 a.m., 8·50 p.m.

METEOROLOGICAL REPORTS AND MAP FOR JANUARY 11, 188[illegible]

Stations	wt	Mx	Mn	R'in
Albury	c	101	68	0
Armidale	b	63	56	0
Balranald	b	122	69	0
Bathurst	b	91	52	0
Bend'm'r	b	82	54	0
Bodalla ..	b	86	55	0
Bourke ..	b	106	70	0
Br'w rrina	b	104	61	0
Bundarra	b	86	61	0
C'md'n H	c	80	71	0·27
C.St.Geo	b	85	66	0
Carcoar ..	b	82	65	0
Casino ..	b	93	64	0
Cassilis ..	c	84	69	0
Clarence	b	88	75	0
C'nd'b'lin	b	102	55	0
Cooma ..	b	101	59	0
Coonab'n	b	91	55	0
Cowra ..	b	102	65	0
Deniliq'n	b	113	67	0
Dubbo ..	b	87	63	0
Eden	b	81	61	0
Euston ..	b	115	72	0
Forbes ..	b	98	63	0
Gl'n Inn's	b	90	54	0
Goulburn	b	96	56	0
Grafton ..	b	90	62	0
Gulgong	b	88	58	0
Gunned'h	b	91	66	0
Hay	b	105	67	0
Inverell ..	b	86	67	0
Kiandra	b	89	55	0
Lismore	b	89	69	0
Maitland	g	85	68	0
Marsdens	b	96	71	0
Menindie	b	102	82	0
Molong ..	b	98	56	0
M'r'ng'r'll	b	97	65	0
Moree ..	b	99	77	0
Moruya ..	b	80	60	0
Moss Vale	–	—	—	–
Mt. Hope	b	108	77	0
M.Vict'ria	b	92	54	0
Mudgee	b	93	68	0
M'rr'mb'h	b	97	70	0
M'rr'r'ndi	b	81	65	0
Mus'lbr'k	b	92	65	0·03
Narrabri	b	93	65	0
Newcastle	b	80	71	0
Orange ..	b	85	56	0
Picton ..	c	83	60	0
P. M'q'rie	b	81	66	0
P. St'ph'n	o	78	64	0·20
Q'nbeyan	b	86	61	0
Quirindi	b	87	65	0
Singleton	b	86	67	0
SYDNEY ..	g	82	69	0
Tamw'rth	b	87	58	0
Taralga ..	b	93	51	0
Taree ..	g	81	68	0·13
T'nt'rfield	b	86	53	0
Wagga ..	b	105	65	0
Walcha ..	b	76	48	0
Walgett ..	b	99	71	0
Warrah ..	b	87	61	0
W'ntw'rth	c	115	70	0
W'll'ng'ng	b	84	69	0
Young ..	b	101	66	0

SYDNEY OBSERVATORY
LATITUDE 33° 51' 41" S   LONGITUDE 10h. 4m. 50·8ls. E

Average Annual Rainfall for 28 years .... 49·489
Total Rainfall for 1886 39·426
From January 1 to January 11 1887 0·110
Barometers corrected to 32° Fah. and Mean Sea Level



NOTES EXPLANATORY OF MAP.

In the list of stations the column headed W.T. gives the state of the weather at 9 a.m., b standing for blue sky; c, detached clouds; d, drizzling rain; f, fog; g, gloomy; h, hazy; m, misty; n, frosty; o, overcast; p, passing showers; r, rain; s, snow; t, thunder; u, threatening. The next column. M'x gives the maximum temperature for previous 24 hours. M'n the corresponding minimum temperature; r'n, the rain for the previous 24 hours. The symbols used in the map are explained on the margin. At each coast station the wind symbol is placed like a vane pointing to the direction from which the wind is coming. A clear circle with it means fine weather; a circle with bar, cloudy weather; and a black spot, raining. Next to this symbol are placed figures denoting the number of miles the wind is moving per hour; next, a symbol showing the state of the sea; and, lastly, figures denoting the shade temperature at 9 a.m. The barometer curve shows the state of barometers round the coast from Perth to Cooktown: Pt, Perth; Ay, Albany; Ea, Eucla; CB, Cape Borda; A, Adelaide; Re, Robe; P, Portland; M, Melbourne; W P, Wilson's Promontory; Go, Gabo; E, Eden; Ma, Moruya; CG Jervis Bay; Wg, Wollongong; S, Sydney; N, Newcastle; P M, Port Macquarie; C, Clarence River; B, Brisbane; R, Rockhampton; Ct, Cooktown. Inland the state of barometer is given in figures at Albury, Deniliquin, Wentworth, Menindie, Bourke, and Alice Springs. The barometer curve enables one at a glance to trace the depressions, beginning with Western Australia, and passing along eastwards; northerly winds preceding them, and southerly following.

Western Australia.—Generally fine, with clouds in places, light S.E. to S.W. winds, risen barometers, and smooth to moderate sea. Rainfall at Cossack, 2·21 inches and still threatening rain. Extremes of barometers and temperature: Perth, 30·02 and 66·; Cossack, 29·79; and Ashburton, 90·.

South Australia.—Generally fine and cool, cloudy inland, scattered clouds on and near the coast. Winds generally are light from S. to S.E., barometers have risen, and the sea is smooth. Extremes of barometers and temperature on the coast: Cape Borda, 30·02; Eucla, 29·87; M'Donnell Bay, 64·; and Adelaide, 78·. In Northern Territory: Daly Waters, 29·98 and 80·; rainfall, 0·58 inch; Port Darwin, 29·86 and 88·.

Victoria.—Generally fine, with light variable winds, risen barometers, and moderate to rough sea. Squally and misty on the coast, sultry inland. Extremes of barometers and temperature: Hamilton, 30·08 and 68·; Echuca, 29·78 and 94·.

Tasmania.—Generally fine, but cloudy, with light variable winds and calms. Steady barometers and moderate to rough sea. Extremes of barometers and temperature: Low Heads: 29·92 and 70·; Falmouth, 29·81 and 61·

New Zealand.—Generally fine, with light westerly winds and steady barometers: Barometers in extreme north, 30·2; in south, 30·0.

New South Wales.—Generally fine and warm, with light N.E. to S.E. winds and calms, steady barometers, and moderate sea; cloudy at scattered places in coast districts, and light rains fell at a few stations. Extremes of barometers and temperature at 9 a.m.: Wentworth, 30·00; Gabo Island, 29·81; Deniliquin, 93·; and Comra, 64·. Reading of the standard barometer at Sydney, corrected to 32· Fahr., and mean sea level at 9 a.m., 29·953. Extra Station: Lake Cudgellico, maximum 89, minimum 65; fine and hot. For further particulars see map.

Queensland.—Generally fine, with light northerly winds in [illegible]

3 P.M. OBSERVATIONS.

Victoria.—Portland, S.E., 23, fine, smooth sea, temperature 70·; Cape Otway, S.S.W., 8, fine, smooth sea, temperature 68·; Melbourne, S.S.W., 18, fine, temperature 71·; Cape Schanck, S., 8, fine but cloudy, smooth sea, temperature 73·; Wilson's Promontory, W., 23, fine and squally, rough sea; Lakes Entrance, W., 8, fine and hazy, temperature 78·.

New South Wales.—Menindie, W., fine, and hot, temperature 95·; Wentworth, S.S.W., cloudy, temperature 79·; Deniliquin, N.W., 28, fine, and hot, temperature 102·; Eden, E.N.E., 14, fine, smooth sea, temperature 76·; Moruya, N.E., 14, fine, moderate sea, temperature 77·; Cape St. George, N.E., 28, fine, smooth sea, temperature 78·; Sydney, E.N.E., 14, fine, smooth sea, temperature 78·; Newcastle, S.S.E., 14, fine, moderate sea, temperature 77·; Port Macquarie, S., 42, fine, moderate sea, temperature 83·; Clarence River, S.E., 14, fine, smooth sea, temperature 83·; Walgett, S., fine and hot, temperature 92·; Dubbo, calm, fine, temperature 83·; Goulburn, calm, fine, temperature 82·.

HEIGHT OF RIVERS ABOVE SUMMER LEVEL.

Macintyre: At Mungindi, 3 feet. Barwon: At Mogil Mogil, 3 feet 4 inches; at Walgett, 5 feet 6 inches. Namoi: At Walgett, low. Culgoa: At Goodooga, 3 feet 9 inches. Darling: At Brewarrina, 3 feet; at Bourke, 15 feet 3 inches; at Louth, 14 feet 10 inches; at Tilpa, 22 feet 9 inches; at Wilcannia, 24 feet; at Menindie, 27 feet 2 inches; at Pooncarie, 23 feet 8 inches; at Wentworth, 15 feet. Murrumbidgee: At Gundagai, 2 feet 6 inches; at Wagga, 3 feet 5 inches; at Hay, 1 foot 6 inches; at Balranald, 7 feet 10 inches. Murray: At Albury, 1 foot 6 inches; at Euston, 10 feet 4 inches.

ASTRONOMICAL MEMORANDA FOR JANUARY 12.

Sun rises at 5·3, sets at 7.13; Moon rises 9.23 p.m., sets 6.59 a.m.; Mercury, 3.52 a.m., 6.16 p.m.; Venus, 5.44 a.m., [illegible]

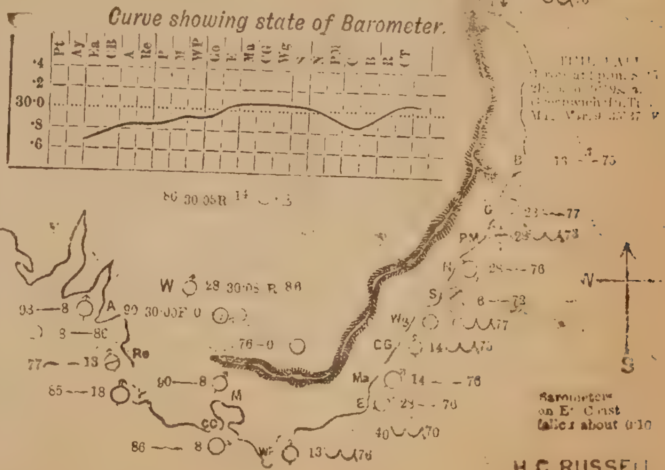
METEOROLOGICAL REPORTS AND MAP FOR JANUARY 8, 1887.

Stations	wt	Mx	mn	r'n
Albury	b	95	66	0
Armidale	b	69	58	0
Balranald	b	114	65	0
Bathurst	b	85	52	0
Bend'm'r	b	80	51	0
Bodalla	b	84	59	0
Bourke	b	103	73	0
Br'w'rrina	b	102	56	0
Bundarra	b	83	41	0
C'md'n H	c	79	63	0·09
C. St. Geo	b	80	63	0
Carcoar	b	97	63	0
Casino	b	84	60	0·10
Cassilis	o	83	67	0
Clarence	b	86	70	0
C'nd'b'lin	b	96	56	0
Cooma	b	93	54	0
Coonab'n	b	89	54	0
Cowra	b	98	68	0
Deniliq'n	b	105	68	0
Dubbo	b	92	58	0
Eden	b	80	57	0
Euston	b	110	65	1·40
Forbes	b	95	67	0
Gl'n Inn's	b	82	54	0
Goulburn	b	89	52	0
Grafton	b	85	66	0·01
Gulgong	b	82	55	0
Gunned'h	b	91	67	0
Hay	b	99	69	0
Inverell	b	84	60	0
Kiandra	b	88	43	0
Lismore	b	82	67	0·09
Maitland	b	87	65	0·09
Marsdens	b	91	72	0
Menindie	b	85	75	0
Molong	b	90	50	0
M'r'ng'r'll	b	91	64	0
Moree	b	96	68	0
Moruya	b	81	63	0
Moss Vale	b	78	58	0
Mt. Hope	b	100	70	0
M. Vict'ria	b	84	49	0
Mudgee	b	88	55	0
M'rr'mb'h	b	90	66	0
M'rr'r'ndi	b	81	64	0·17
Mus'lbr'k	c	93	52	0
Narrabri	b	90	66	0
Newcastle	b	82	69	0
Orange	b	79	52	0
Picton	c	80	55	0
P. M'q'rie	g	82	62	0·26
P. St'ph'n	g	81	62	0
Quebeyan	b	78	67	0
Quirindi	b	91	64	0
Singleton	b	85	66	0
Sydney	b	80	65	0
Tamw'rth	-	—	—	-
Taralga	b	81	51	0
Taree	b	83	66	0·17
T'nt'rfield	b	77	51	0
Wagga	b	98	65	0
Walcha	b	73	43	0·01
Walgett	b	97	69	0
Warrah	b	88	60	0
W'ntw'rth	b	109	70	0
W'll'ng'ng	b	87	63	0
Young	b	92	58	0

SYDNEY OBSERVATORY.
Latitude 33° 51′ 41″ S. Longitude 10h. 4m. 50·81s. E.

Average Annual Rainfall for 28 years .... 48·489
Total Rainfall for 1886 39·428
From January 1 to January 8 1887 0·117
Barometers corrected to 32° Fah. and Mean Sea Level.

Fine; wind N. Cloudy, wind E. T. storm, wind S. Rain, wind W. If it is calm, the symbols used without the arrow. Smooth sea. Heavy sea. Very heavy sea.



Full ... at ... p.m. ... Greenwich ... Mt. Victoria ...

Barometers on E. Coast fallen about 0·10

H. C. RUSSELL,
Government Astronomer.

NOTES EXPLANATORY OF MAP.

In the list of stations the column headed W.T. gives the state of the weather at 9 a.m., b standing for blue sky; c, detached clouds; d, drizzling rain; **f, fog; g, gloomy; h, hazy; m, misty;** n, frosty; o, overcast; p, passing showers; r, rain; s, snow; **t, thunder; u, threatening.** The next column, M'x gives the maximum temperature for previous 24 hours. M'n the corresponding minimum temperature; r'n, the rain for the previous 24 hours. The symbols used in the map are explained on the margin. At each coast station the wind symbol is placed like a vane pointing to the direction from which the wind is coming. A clear circle with it means fine weather; a circle with bar, cloudy weather; and a black spot, raining. Next to this symbol are placed figures denoting the number of miles the wind is moving per hour; next, a symbol showing the state of the sea; and, lastly, figures denoting the shade temperature at 9 a.m. The barometer curve shows the state of barometers round the coast from Perth to Cooktown:—Pt, Perth; Ay, Albany; Ea, Eucla; CB, Cape Borda; A, Adelaide; Re, Robe; P, Portland; M, Melbourne; W P, Wilson's Promontory; Go, Gabo; E, Eden; Ma, Moruya; G J, Jervis Bay; Wg, Wollongong; S, Sydney; N, Newcastle; P M, Port Macquarie; C, Clarence River; B, Brisbane; R, Rockhampton; Ct, Cooktown. Inland the state of barometer is given in figures at Albury, Deniliquin, Wentworth, Menindie, Bourke, and Alice Springs. The barometer curve enables one at a glance to trace the depressions, beginning with Western Australia, and passing along eastwards; northerly winds preceding them, and southerly following.

South Australia.—Fine and hot throughout, with light N. to N.E. winds, fallen barometers, and moderate sea. Extremes of barometers and temperature on the coast: Port Augusta, 29·86; Eucla, 29·67; Adelaide, 28°; and M'Donnell Bay 64°. In Northern Territory: Daly Waters, 29·95 and 87°; Port Darwin, 29·80 and 84°.

Victoria.—Generally fine and warm, with light N. to N.E. winds and calms, fallen barometers, and moderate to rough sea. Extremes of barometers and temperature: Omeo, 30·06; Portland, 29·86; Lakes' Entrance, 61°; and Echuca, 99°. Rainfall: Lallese..., 0·34; Omeo, 0·13; and Cape Otway, 0·05 inch.

New Zealand.—Generally fine, with light northerly winds and calms. Barometers: In extreme north, 30·3; in central and south parts, 30·2.

New South Wales.—Generally fine, with clouds in scattered places, light N.E. to S.E. and S. winds, falling barometers, and moderate to heavy sea. Light rain has fallen at a few scattered stations. Extremes of barometers and temperature at 9 a.m.: Wentworth, 30·08; Dubbo, 30·01; Deniliquin, 90°; and Goulburn, 64°. Reading of the standard barometer at Sydney, corrected to 32° Fahr. and mean sea level, at 9 a.m., 30·056. Extra station: Lake Cudgellico, max. 88°, min. 70°, fine and warm. For further particulars see map.

Queensland.—Generally fine, with light S. to S.E. winds, steady barometers, and moderate to rough sea. Extremes of barometers and temperature: Cooktown, 30·06 and 92°; Brisbane, 29·94 and 75°.

3 P.M. OBSERVATIONS.

New South Wales.—Menindie, calm, fine, temperature ...; Wentworth, S., fine, hot, temperature 87°; Deniliquin, ..., fine, hot, temperature 97°; Eden, N.E., 14, ..., smooth sea, temperature 71°, Moruya, N.E., 28, ..., smooth sea, temperature 76·5°; Cape St. George, N.N.E., temperature 76°; Sydney, E., light, fine, smooth sea; Newcastle, E.S.E., light, fine, smooth sea, temperature 75°; Port Macquarie, S., cloudy, ... sea, temperature 76·5°; Clarence River, S.E., fine, ... sea, temperature 78°; Goulburn, E., light, fine, temperature 78°.

HEIGHT OF RIVERS ABOVE SUMMER LEVEL.

Macintyre: At Mungindi, 5 feet. Barwon: At Mogil Mogil 4 feet, at Walgett, 5 feet 8 inches. Namoi: At Walgett, low. Culgoa: At Goodooga, low. Darling: At Brewarrina, ... feet; at Bourke, 16 feet; at Louth, 15 feet 6 inches; at Tilpa, 23 feet 6 inches; at Wilcannia 25 feet 4 inches; at Menindie, 27 feet 3 inches; at Pooncarie, 23 feet 8 inches; at Wentworth, 15 feet. Murrumbidgee: At Gundagai, 2 feet; at Wagga, 1 feet 9 inches; at Hay, 2 feet 3 inches; at Balranald, 10 feet. Murray: At Albury, 1 foot 7 inches; at Euston, 10 feet 11 inches.

ASTRONOMICAL MEMORANDA FOR JANUARY 10.

Sun rises at 5·2, sets at 7.13; Moon rises 7.34 p.m., sets 4·51 a.m.; Mercury, 3.48 a.m., 6.10 p.m.; Venus, 5.40 a.m., 7.51 p.m.; Mars, 6.55 a.m., 8.40 p.m.; Jupiter, 12.13 a.m., 1.20 p.m.; Saturn, 7.4 p.m., 5.2 a.m. Full moon, 10th; new moon, 24th. High water at Fort Denison—8.26 a.m., 8.50 p.m.

METEOROLOGICAL REPORTS AND MAP FOR JANUARY 10, 1887.

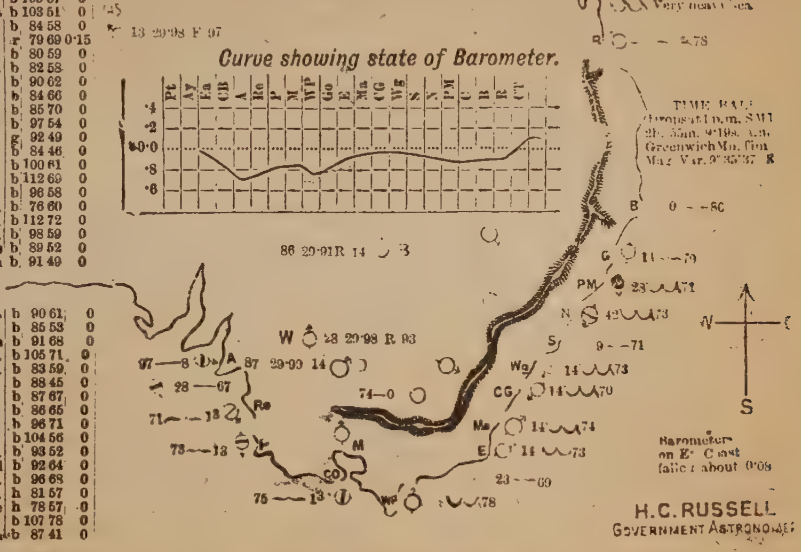
Stations	wt	Mx	mn	R'in
Albury	b	102	63	0
Armidale	b	93	57	0
Balranald	b	120	64	0
Bathurst	b	89	47	0
Bend'm'r	b	82	56	0
Bodalla ..	b	86	54	0
Bourke ..	b	105	67	0
Br'w rrina	b	103	51	0
Bundarra	b	84	58	0
Camd'n H	r	79	69	0·15
C.St.Geo	b	80	59	0
Carcoar ..	b	82	58	0
Casino ..	b	90	62	0
Cassilis ..	b	84	66	0
Clarence	b	85	70	0
C'nd'b'lin	b	97	54	0
Cooma ..	g	92	49	0
Coonab'n	b	84	46	0
Cowra ..	b	100	61	0
Deniliq'n	b	112	69	0
Dubbo ..	b	96	58	0
Eden	b	76	60	0
Euston ..	b	112	72	0
Forbes ..	b	98	59	0
Gl'n Inn's	b	89	52	0
Goulburn	b	91	49	0

Grafton ..	b	90	61	0
Gulgong	b	85	53	0
Gunned'h	b	91	68	0
Hay	b	105	71	0
Inverell ..	b	83	59	0
Kiandra	b	88	45	0
Lismore	b	87	67	0
Maitland	b	86	65	0
Marsdens	b	96	71	0
Menindie	b	104	56	0
Molong ..	b	93	52	0
M'r'ng'r'll	b	92	64	0
Moree ..	b	96	68	0
Moruya ..	h	81	57	0
Moss Vale	h	78	57	0
Mt. Hope	b	107	78	0
M.Vict'ria	b	87	41	0

Mudgee	b	92	54	0
M'rr'mb'h	h	93	56	0
M'rr'r'ndi	b	80	64	0
Mus'lbr'k	c	92	59	0
Narrabri	b	95	64	0
Newcastle	g	79	68	0
Orange ..	b	83	49	0
Picton .	o	80	54	0
P. M'q'rie	r	81	65	0·23
P. St'ph'n	b	81	66	0·15
Q'nbeyan	b	88	53	0·32
Quirindi	b	87	65	0
Singleton	b	87	66	0
SYDNEY ..	b	79	65	0
Tamw'rth	b	87	55	0
Taralga ..	b	91	45	0
Taree ..	u	84	67	0·04
T'nt'rfield	b	84	71	0
Wagga ..	b	106	65	0
Walcha ..	o	77	52	0
Walgett ..	b	98	64	0
Warrah ..	b	82	63	0
W'ntw'rth	b	112	77	0
W'll'ng'ng	c	87	63	0
Young ..	b	100	55	0

SYDNEY OBSERVATORY.
LATITUDE 33° 51' 41" S LONGITUDE 10h. 4m. 50·81s. E

Average Annual Rainfall for 28 years ..... 49·549
Total Rainfall for 1886 39·426
From January 1 to January 10 1887 0·117
Barometers corrected to 32° Fah. and Mean Sea Level



NOTES EXPLANATORY OF MAP.

In the list of stations the column headed W.T. gives the state of the weather at 9 a.m., b standing for blue sky; c, detached clouds; d, drizzling rain; f, fog; g, gloomy; h, hazy; m, misty; n, frosty; o, overcast; p, passing showers; r, rain; s, snow; t, thunder; w, threatening. The next column. M'x gives the maximum temperature for previous 24 hours. M'n the corresponding minimum temperature; r'n, the rain for the previous 24 hours. The symbols used in the map are explained on the margin. At each coast station the wind symbol is placed like a vane pointing to the direction from which the wind is coming. A clear circle with it means fine weather; a circle with bar, cloudy weather; and a black spot, raining. Next to this symbol are placed figures denoting the number of miles the wind is moving per hour; next, a symbol showing the state of the sea; and, lastly, figures denoting the shade temperature at 9 a.m. The barometer curve shows the state of barometers round the coast from Perth to Cooktown:- Pt, Perth; Ay, Albany; Ea, Eucla; CB, Cape Borda; A, Adelaide; Re, Robe; P, Portland; M, Melbourne; W P, Wilson's Promontory; Go, Gabo; E, Eden; Ma, Moruya; C G Jervis Bay; Wg, Wollongong; S, Sydney; N, Newcastle; P M, Port Macquarie; C, Clarence River; B, Brisbane; R, Rockhampton; Ct, Cooktown. Inland the state of barometer is given in figures at Albury, Deniliquin, Wentworth Menindie, Bourke, and Alice Springs. The barometer curve enables one at a glance to trace the depressions, beginning with Western Australia, and passing along eastwards; northerly winds preceding [illegible] southerly following.

Western Australia.—At Geraldton fine weather, light, S.W. wind, and smooth sea; barometer 30·04, and temperature 73°.

South Australia.—Generally more or less clouded and sultry, with fresh N.E. to S.E. and S. wind, risen barometers, and moderate sea; sharp shock of earthquake at Port Augusta Saturday evening, at 8 o'clock. Thunderstorms during the night at Port Lincoln. Light rain has fallen in Northern Territory generally, heaviest at Port Darwin 0·53 inches. Extremes of barometers and temperature on the coast: Eucla, 29·94; Adelaide, 29·73, and 97°; M'Donnell Bay 66°. In Northern Territory: Daly Waters, 29·97 and 81°; Port Darwin, 29·88 and 87°.

Victoria.—Generally fine, hot, and hazy, with light northerly winds, fallen barometers, and moderate to rough sea. Extremes of barometers and temperature: Hamilton, 30·02; Ballarat, 29·07 and 94°; Portland, 73°.

Tasmania.—At Low Heads, fine, hazy, and sultry weather, with light S.E. wind and smooth sea. Barometer, 29·86; and temperature, 70°.

New Zealand.—Generally fine, with light N.W. winds and calms on North Island; gloomy, with S.W. wind, in extreme south parts. Barometers: Russell, 30·2; Wellington and Bluff, 30·0.

New South Wales.—Generally fine, clear, and warm, cloudy and unsettled in N.E. parts, raining on the Manning River, with light southerly winds along the coast, chiefly northerly west of the range, slightly fallen barometers, and rough sea; light rain has fallen at a few scattered stations. Extremes of barometers and temperature at 9 a.m.: Walgett, 30·02; Gabo Island, 29·84; Wentworth, 93°; and Goulburn, 63°. Reading of the standard barometer at Sydney, corrected to 32° Fahr. and mean sea level, at 9 a.m., 29·955. Extra station: Lake Cudgellico, max. 87°, min. 71°, fine, clear, and warm. For further particulars see map.

Queensland.—Generally fine, with very light variable winds and calms, slightly fallen barometers, and smooth sea. Rainfall: Cooktown, 0·65; Rockhampton, 0·30 inch. Extremes of barometers and temperature: Cooktown, 30·06 and 89°; Brisbane, 29·87, and Rockhampton, 78°.

3 P.M. OBSERVATIONS.

Victoria.—Cape Otway, S.S.W., 8, fine and hazy, smooth sea, temperature 73°; Melbourne, S.S.E., 13, cloudy and sultry, temperature 99°; Cape Schanck, S.E., 8, fine and hazy, smooth sea, temperature 82°; Wilson's Promontory, W.S.W., 18, fine and sultry, rough sea, temperature 84°; Lakes Entrance, E., 18, fine and sultry, temperature 82°.

New South Wales.—Menindie, calm, fine, and hot, temperature 96°; Wentworth, W., 14, fine, and hot, temperature 103°; Deniliquin, calm, cloudy, hot, temperature 98°; Eden, E.N.E., 14, fine, heavy sea, temperature 75°; Cape St. George, S., 14, fine, smooth sea; temperature 76°; Sydney, S.E., 14, fine, clear, and warm, moderate sea, temperature 78°; Newcastle, S., 14, fine, moderate sea, temperature, 75°; Port Macquarie, S., 42, cloudy, rough sea, temperature 81°; Walgett, S., 14, fine, temperature 10; Dubbo, E., 14, fine, temperature 82°; Goulburn, S.E., 14, fine, temperature 79°.

HEIGHT OF RIVERS ABOVE SUMMER LEVEL.

Macintyre: At Mungindi, 5 feet. Barwon: At Mogil Mogil, 3 feet 6 inches; at Walgett, 5 feet 6 inches. Namoi: At Walgett, low. Culgoa: At Goodooga, 3 feet. Darling: At Brewarrina, 3 feet 6 inches; at Bourke, 15 feet 8 inches; at Louth, 15 feet; at Tilpa, 23 feet; at Wilcannia, 24 feet 5 inches; at Menindie, 27 feet 2 inches; at Pooncarie, 23 feet 9 inches; at Wentworth, 15 feet. Murrumbidgee: At Gundagai, 3 feet; at Wagga, 3 feet 9 inches; at Hay, 2 feet; at Balranald, 8 feet 1 inch. Murray: At Albury, 1 foot 6 inches; at Euston, 10 feet 5 inches.

ASTRONOMICAL MEMORANDA FOR JANUARY 11.

Sun rises at 5·3, sets at 7.13; Moon rises 8.25 p.m., sets 5.54 a.m.; Mercury, 3.50 a.m., 6.13 p.m.; Venus, 5.42 a.m., 7.51 p.m.; Mars, 6.54 a.m., 8.39 p.m.; Jupiter, 12.10 a.m., 1.17 p.m.; Saturn, 7 p.m., 4.58 a.m. Full moon, 10th; new moon, 24th. High water at Fort Denison—9.13 a.m., 9.35 p.m.

METEOROLOGICAL REPORTS AND MAP FOR JANU...

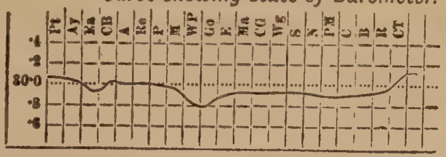
Stations	W.T.	Mx	Mn	R'in
Albury	c	101	68	0
Armidale	b	63	56	0
Balranald	b	122	69	0
Bathurst	b	91	52	0
Bend'm't	b	82	54	0
Bodalla ..	b	86	55	0
Bourke..	b	106	70	0
Br'w'rrina	b	104	61	0
Bundarra	b	86	61	0
C'md'n H	o	80	71	0·27
C.St.Geo	b	85	66	0
Carcoar ..	b	82	65	0
Casino ..	b	93	64	0
Cassilis ..	c	84	69	0
Clarence	b	88	75	0
C'nd'b'lin	b	102	55	0
Cooma ..	b	101	59	0
Coonab'n	b	91	55	0
Cowra ..	b	102	65	0
Deniliq'n	b	113	67	0
Dubbo ..	b	87	63	0
Eden	b	81	61	0
Euston ..	b	115	72	0
Forbes ..	b	98	63	0
Gl'n Inn's	b	90	54	0
Goulburn	b	96	56	0
Grafton ..	b	90	62	0
Gulgong	b	88	58	0
Gunned'h	b	91	66	0
Hay	b	105	67	0
Inverell ..	b	86	67	0
Kiandra	b	89	55	0
Lismore	b	89	69	0
Maitland	g	85	68	0
Marsdens	b	96	71	0
Menindie	b	102	82	0
Molong ..	b	98	56	0
M'r'ng'r'll	b	97	65	0
Moree ..	b	99	77	0
Moruya ..	b	80	60	0
Moss Vale	-	—	—	—
Mt. Hope	b	108	77	0
M.Vict'ria	b	92	54	0
Mudgee	b	93	58	0
M'rr'mb'h	b	97	70	0
M'rr'r'ndi	b	81	65	0
Mus'lbr'k	b	92	65	0·03
Narrabri	b	93	65	0
Newcastle	b	80	71	0
Orange ..	b	85	56	0
Picton ..	o	83	60	0
P. M'q'rie	b	81	66	0
P. St'ph'n	o	78	64	0·20
Q'nbeyan	b	86	61	0
Quirindi	b	87	65	0
Singleton	b	86	67	0
Sydney ..	g	82	69	0
Tamw'rth	h	87	58	0
Taralga ..	b	93	51	0
Taree ..	g	81	68	0·13
T'nt'rfield	b	86	53	0
Wagga ..	b	105	65	0
Walcha ..	b	76	48	0
Walgett ..	b	99	71	0
Warrah ..	b	87	61	0
W'ntw'rth	c	115	70	0
W'll'ng'ng	b	84	69	0
Young ..	b	101	66	0

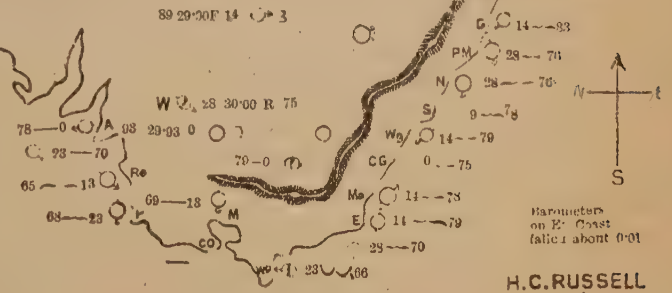
SYDNEY OBSERVATORY

LATITUDE 33° 51' 41" S LONGITUDE 10h. 4m. 50·81s. E

Average Annual Rainfall for 28 years ...... 49·489
Total Rainfall for 1886 39·426
From January 1 to January 11 1887 0·110
Barometers corrected to 32° Fah. and Mean Sea Level

Curve showing state of Barometer.





TIME BALL
Dropped 1 p.m. S.M.T.

Barometers on E. Coast fallen about 0·01

H. C. RUSSELL
GOVERNMENT ASTRONOMER

NOTES EXPLANATORY OF MAP.

In the list of stations the column headed W.T. gives the state of the weather at 9 a.m., b standing for blue sky; c, detached clouds; d, drizzling rain; f, fog; g, gloomy; h, hazy; m, misty; n, frosty; o, overcast; p, passing showers; r, rain; s, snow; t, thunder; u, threatening. The next column. M'x gives the maximum temperature for previous 24 hours. M'n the corresponding minimum temperature; r'n, the rain for the previous 24 hours. The symbols used in the map are explained on the margin. At each coast station the wind symbol is placed like a vane pointing to the direction from which the wind is coming. A clear circle with it means fine weather; a circle with bar, cloudy weather; and a black spot, raining. Next to this symbol are placed figures denoting the number of miles the wind is moving per hour; next, a symbol showing the state of the sea; and, lastly, figures denoting the shade temperature at 9 a.m. The barometer curve shows the state of barometers round the coast from Perth to Cooktown: Pt, Perth; Ay, Albany; Ea, Eucla; CB, Cape Borda; A, Adelaide; Re, Robe; P, Portland; M, Melbourne; W P, Wilson's Promontory; Go, Gabo; E, Eden; Ma, Moruya; C G Jervis Bay; Wg, Wollongong; S, Sydney; N, Newcastle; P M, Port Macquarie; C, Clarence River; B, Brisbane; R, Rockhampton; Ct, Cooktown. Inland the state of barometer is given in figures at Albury, Deniliquin, Wentworth, Menindie, Bourke, and Alice Springs. The barometer curve enables one at a glance to trace the depressions, beginning with Western Australia, and passing along eastwards; northerly winds preceding them, and southerly following.

Western Australia.—Generally fine, with clouds in places, light S.E. to S.W. winds, risen barometers, and smooth to moderate sea. Rainfall at Cossack, 2·21 inches and still threatening rain. Extremes of barometers and temperature: Perth, 30·02 and 66°; Cossack, 29·79; and Ashburton, 90°.

South Australia.—Generally fine and cool, cloudy inland, scattered clouds on and near the coast. Winds generally are light from S. to S.E., barometers have risen, and the sea is smooth. Extremes of barometers and temperature on the coast: Cape Borda, 30·02; Eucla, 29·87; M'Donnell Bay, 64°; and Adelaide, 78°. In Northern Territory: Daly Waters, 29·98 and 80°; rainfall, 0·58 inch; Port Darwin, 29·86 and 88°.

Victoria.—Generally fine, with light variable winds, risen barometers, and moderate to rough sea. Squally and misty on the coast, sultry inland. Extremes of barometers and temperature: Hamilton, 30·08 and 68°; Echuca, 29·78 and 94°.

Tasmania.—Generally fine, but cloudy, with light variable winds and calms. Steady barometers and moderate to rough sea. Extremes of barometers and temperature: Low Heads: 29·92 and 70°; Falmouth, 29·81 and 61°.

New Zealand.—Generally fine, with light westerly winds and steady barometers: Barometers in extreme north, 30·2; in south, 30·0.

New South Wales.—Generally fine and warm, with light N.E. to S.E. winds and calms, steady barometers, and moderate sea; cloudy at scattered places in coast districts, and light rains fell at a few stations. Extremes of barometers and temperature at 9 a.m.: Wentworth, 30·00; Gabo Island, 29·81; Deniliquin, 93°; and Comra, 64°. Reading of the standard barometer at Sydney, corrected to 32° Fahr., and mean sea level at 9 a.m., 29·953. Extra Station: Lake Cudgellico, maximum 89, minimum 65; fine and hot. For further particulars see map.

Queensland.—Generally fine, with light northerly winds in south parts and calms in north. Rainfall: 0·95 inches at Rockhampton. Extremes of barometers and temperature: Cooktown, 30·10; Brisbane, 29·88 and 81°; Townsville, 90°.

3 P.M. OBSERVATIONS.

Victoria.—Portland, S.E., 23, fine, smooth sea, temperature 70°; Cape Otway, S.S.W., 8, fine, smooth sea, temperature 68°; Melbourne, S.S.W., 18, fine, temperature 71°; Cape Schanck, S., 8, fine but cloudy, smooth sea, temperature 73°; Wilson's Promontory, W., 23, fine and squally, rough sea; Lakes Entrance, W., 8, fine and hazy, temperature 78°.

New South Wales.—Menindie, W., fine, and hot, temperature 95°; Wentworth, S.S.W., cloudy, temperature 79°; Deniliquin, N.W., 28, fine, and hot, temperature 102°; Eden, E.N.E., 14, fine, smooth sea, temperature 76°; Moruya, N.E., 14, fine, moderate sea, temperature 77°; Cape St. George, N.E., 28, fine, smooth sea, temperature 78°; Sydney, E.N.E., 14, fine, smooth sea, temperature 78°; Newcastle, S.S.E., 14, fine, moderate sea, temperature 77°; Port Macquarie, S., 42, fine, moderate sea, temperature 83°; Clarence River, S.E., 14, fine, smooth sea, temperature 83°; Walgett, S., fine and hot, temperature 92°; Dubbo, calm, fine, temperature 83°; Goulburn, calm, fine, temperature 82°.

HEIGHT OF RIVERS ABOVE SUMMER LEVEL.

Macintyre: At Mungindi, 8 feet. **Barwon:** At Mogil Mogil, 3 feet 4 inches; at Walgett, 5 feet 0 inches. **Namoi:** At Walgett, low. **Culgoa:** At Goodooga, 3 feet 9 inches. **Darling:** At Brewarrina, 3 feet; at Bourke, 15 feet 3 inches; at Louth, 14 feet 10 inches; at Tilpa, 22 feet 9 inches; at Wilcannia, 24 feet; at Menindie, 27 feet 2 inches; at Pooncarie, 23 feet 8 inches; at Wentworth, 15 feet. **Murrumbidgee:** At Gundagai, 2 feet 6 inches; at Wagga, 3 feet 5 inches; at Hay, 1 foot 6 inches; at Balranald, 7 feet 10 inches. **Murray:** At Albury, 1 foot 6 inches; at Euston, 10 feet 4 inches.

ASTRONOMICAL MEMORANDA FOR JANUARY 12.

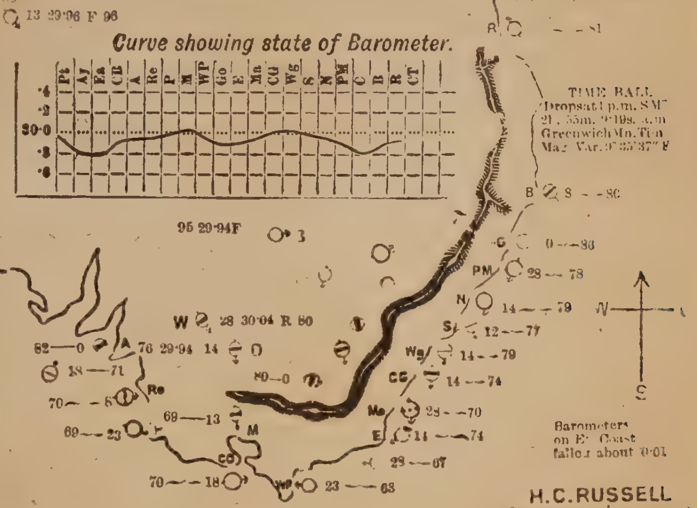
Sun rises at 5·3, sets at 7.13; Moon rises 9.23 p.m., sets 6.59 a.m.; Mercury, 3.52 a.m., 6.16 p.m.; Venus, 5.44 a.m., 7.52 p.m.; Mars, 6.54 a.m., 8.37 p.m.; Jupiter, 12.8 a.m., 1.14 p.m.; Saturn, 0.56 p.m., 4.54 a.m. Full moon, 10th; new moon, 24th. High water at Fort Denison—9.57 a.m., 10.19 p.m.

METEOROLOGICAL REPORTS AND MAP FOR JANUARY 12, 188?

Stations	W.T.	Mx	Mn	R'fn
Albury	c	106	72	0
Armidale	b	77	60	0
Balranald	c	115	72	0
Bathurst	b	93	59	0
Bend'm'r	b	90	62	0
Bodalla	g	88	60	0
Bourke	b	107	71	0
Br'w'rrina	-	—	—	-
Bundarra	b	86	60	0
C'nd'n H	u	81	72	0
C.St.Geo	c	82	64	0
Carcoar	b	85	74	0
Casino	c	93	62	0
Cassilis	h	86	71	0
Clarence	b	89	75	0
C'nd'b'lin	b	102	61	0
Cooma	b	103	59	0
Coonab'n	b	94	56	0
Cowra	b	105	68	0
Deniliq'n	g	118	68	0
Dubbo	b	99	68	0
Eden	c	82	64	0
Euston	g	101	70	0
Forbes	b	101	63	0
Gl'n Inn's	b	93	63	0
Goulburn	b	98	61	0
Grafton	b	92	70	0
Gulgong	b	90	62	0
Gunned'h	b	94	72	0
Hay	c	108	73	0
Inverell	b	89	65	0
Kiandra	c	98	52	0·02
Lismore	g	91	72	0
Maitland	b	89	69	0
Marsdens	b	99	75	0
Menindie	g	96	82	0
Molong	b	98	61	0
M'r'ng'r'll	b	99	72	0
Moree	b	101	82	0
Moruya	g	82	63	0
Moss Vale	u	85	69	0
Mt. Hope	b	111	74	0
M.Vict'ria	b	96	50	0
Mudgee	b	93	60	0
M'rr'mb'h	b	93	71	0
M'rr'r'ndi	b	85	66	0
Mus'lbr'k	b	90	62	0
Narrabri	b	96	64	0
Newcastle	b	87	76	0
Orange	b	86	59	0
Picton	o	87	64	0
P. M'q'rie	b	83	65	0
P. St'ph'n	b	83	66	0
Q'nbeyan	b	86	66	0
Quirindi	b	89	65	0
Singleton	b	90	71	0
SYDNEY	o	81	68	0
Tamw'rth	b	91	60	0
Taralga	b	100	60	0
Taree	g	88	69	0
T'nt'rfield	o	90	71	0
Wagga	b	107	71	0
Walcha	b	83	48	0
Walgett	b	101	70	0
Warrah	b	90	63	0
W'ntw'rth	o	97	73	0
W'll'ng'ng	o	89	69	0
Young	b	102	67	0

SYDNEY OBSERVATORY.
LATITUDE 33° 51' 41" S LONGITUDE 10h. 4m 50·81s. E

Average Annual Rainfall for 28 years...... ... 49·489
Total Rainfall for 1886 39·426
From January 1 to January 12 1887 0·119
Barometers corrected to 32° Fah. and Mean Sea Level



Calm wind N; Points of wind E.; T. storm wind S; Rain wind W. If it is CALM, the symbol is used without the arrow.
Smooth sea.
Heavy sea
Very heavy sea.

H.C. RUSSELL
GOVERNMENT ASTRONOMER

NOTES EXPLANATORY OF MAP.

In the list of stations the column headed W.T. gives the state of the weather at 9 a.m., b standing for blue sky; c, detached clouds; d, drizzling rain; f, fog; g, gloomy; h, hazy; m, misty; n, frosty; o, overcast; p, passing showers; r, rain; s, snow; t, thunder; u, threatening. The next column, M'x gives the maximum temperature for previous 24 hours. M'n the corresponding minimum temperature; r'n, the rain for the previous 24 hours. The symbols used in the map are explained on the margin. At each coast station the wind symbol is placed like a vane pointing to the direction from which the wind is coming. A clear circle with it means fine weather; a circle with bar, cloudy weather; and a black spot, raining. Next to this symbol are placed figures denoting the number of miles the wind is moving per hour; next, a symbol showing the state of the sea; and, lastly, figures denoting the shade temperature at 9 a.m. The barometer curve shows the state of barometers round the coast from Perth to Cooktown:—Pt, Perth; Ay, Albany; Ea, Eucla; CB, Cape Borda; A, Adelaide; Re, Robe; P, Portland; M, Melbourne; W P, Wilson's Promontory; Go, Gabo; E, Eden; Ma, Moruya; C G Jervis Bay; Wg, Wollongong; S, Sydney; N, Newcastle; P M, Port Macquarie; C, Clarence River; B, Brisbane; R, Rockhampton; Ct, Cooktown. Inland the state of barometer is given in figures at Albury, Deniliquin, Wentworth, Menindie, Bourke, and Alice Springs. The barometer curve enables one at a glance to trace the depressions, beginning with Western Australia, and passing along eastwards; northerly winds preceding them, and southerly following.

Western Australia.—Generally fine, with light variable winds and calms, fallen barometers, and moderate sea. Extremes of barometers and temperature: Geraldton, 29·94; Albany, 29·77; Carnarvon, 78°; and Esperance Bay, 65°.

South Australia.—Generally cloudy, gloomy, and sultry south of Peake, in places threatening rain; scattered clouds north of Katherine; light N.E. to S.E. winds, fallen barometers, and moderate sea. Extremes of barometers and temperature on the coast: M'Donnell Bay, 29·98 and 64°; Eucla, 29·79; and Adelaide, 82°. In Northern Territory: Daly Waters, 29·94 and 89°; Port Darwin, 29·87, and 0·21 inch rain.

Victoria.—Generally fine, with clouds in places, light S.E. to S.W. winds, risen barometers, and moderate sea. Omeo: 0·02 inch rain. Extremes of barometers and temperature: Cape Otway, 30·07; Echuca, 29·88 and 73°; Wilson's Promontory, 63°.

Tasmania.—Generally fine, with light N. to E. winds, risen barometers and moderate to rough sea. Misty rain at Hobart, 0·03 inch fallen. Extremes of barometers and temperature: Low Heads, 30·12 and 67°; Hobart, 30·00 and 56°.

New Zealand.—Generally fine but cloudy, with light N.E. to N.W. winds and calms. Barometers: Russell, 30·3; Wellington, 30·1; and Bluff, 30·0.

New South Wales.—Generally fine, clear, and warm, with light S. to E. winds, almost steady barometers, and moderate sea; more or less cloudy and unsettled in south parts. At Kiandra, 0·02 inch rain has fallen. Extremes of barometers and temperature at 9 a.m.: Wentworth, 30·04; Clarence, 29·80; Bourke, 95°; Armidale and Mount Victoria, 68°. Reading of the standard barometer at Sydney, corrected to 32° Fahr., and mean sea level at 9 a.m., 29·973. Extra Station: Lake Cudgellico, maximum 104°, minimum 73°; fine and hot. For further particulars see map.

Queensland.—Generally fine and sultry, with light variable winds and calms, steady barometers, and smooth sea. Extremes of barometers and temperature: Cooktown, 29·93; Brisbane, 29·89 and 60°; Townsville, 90°.

3 P.M. OBSERVATIONS.

Queensland.—Brisbane, S.E., 23, fine, temperature 85°.
Victoria.—Cape Otway, E.S.E. 13, fine, rough sea, temperature 70°; Melbourne, S.S.W., 13, cloudy, temperature 72°; Cape Schanck, S.S.E., 13, fine but cloudy, smooth sea, temperature 73°; Wilson's Promontory, S.W., 18, fine but cloudy, moderate sea, temperature 68°; Lakes Entrance, S., 18, fine but cloudy, temperature 74°.

New South Wales.—Menindie, S., 14, cloudy and cool, temperature 90°; Wentworth, N.W., cloudy, temperature 86°; Deniliquin, S., 14, fine, temperature 94°; Eden, S.E., 28, fine, smooth sea, temperature 74°; Moruya, S.E., 14, dull, moderate sea, temperature 74°; Cape St. George, S., 14, fine and hazy, moderate sea, temperature 77°; Sydney, S.E., 14, fine, smooth sea, temperature 79°; Newcastle, S.S.E., 14, fine, smooth sea, temperature 77°; Port Macquarie, S., 42, cloudy, smooth sea, temperature 83°; Clarence River, S.E., 14, fine, smooth sea, temperature 82°; Dubbo, N.W., cloudy, temperature 86°; Forbes, E., fine, temperature 85°; Goulburn, E.N.E., fine, smooth sea, temperature 80°. The Government Astronomer for South Australia telegraphs: "Severe shocks of earthquake are reported to have taken place on Saturday evening last, about 8.5, extending from Georgetown along the Flinders Range to Blinman, including Point Pirie and Terowie."

HEIGHT OF RIVERS ABOVE SUMMER LEVEL.

Macintyre: At Mungindi, 5 feet. Barwon: At Mogil Mogil, 3 feet; at Walgett, 5 feet 6 inches. Namoi: At Walgett, low. Culgoa: At Goodooga, 4 feet 5 inches. Darling: At Brewarrina, 2 feet 9 inches; at Bourke, 14 feet 10 inches; at Louth, 14 feet 8 inches; at Tilpa, 22 feet 6 inches; at Wilcannia, 24 feet 6 inches; at Menindie, 27 feet 2 inches; at Pooncarie, 23 feet 8 inches; at Wentworth, 15 feet. Murrumbidgee: At Gundagai, 2 feet 6 inches; at Wagga, 3 feet 1 inch; at Hay, 1 foot 2 inches; at Balranald, 7 feet. Murray: At Albury, 1 foot 6 inches; at Euston, 10 feet 3 inches.

ASTRONOMICAL MEMORANDA FOR JANUARY 1?.

Sun rises at 5·4, sets at 7.13; Moon rises 9.58 p.m., sets 8.7 a.m.; Mercury, 3.54 a.m., 6.19 p.m.; Venus, 5.46 a.m., 7.53 p.m.; Mars, 6.54 a.m., 8.36 p.m.; Jupiter, 12.3 a.m., 1.11 p.m.; Saturn, 6.52 p.m., 4.50 a.m. Full moon, 10th; new moon, 24th.

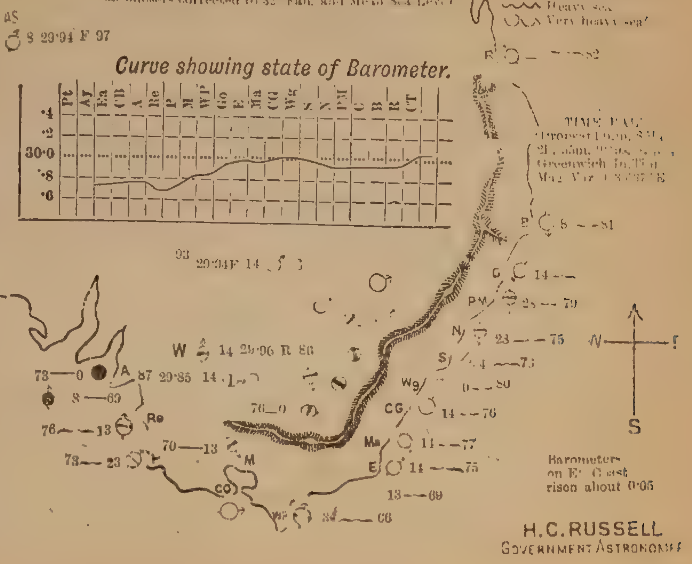
High water at Fort Denison, January 13: 10.40 a.m., 11.2 p.m.

METEOROLOGICAL REPORTS AND MAP FOR JANUARY 13, 188

SYDNEY OBSERVATORY
LATITUDE 33° 51' 41" S   LONGITUDE 10h. 4m. 50·81s. E

Average Annual Rainfall for 28 years ... 49·489
Total Rainfall for 1886 39·126
From January 1 to January 13 1887 0·119
Barometers corrected to 32° Fah. and Mean Sea Level

Stations	W.T.	Mx	Mn	R'in
Albury	o	91	72	0
Armidale	b	69	58	0
Balranald	g	110	74	0
Bathurst	c	92	62	0
Bend'm'r	b	89	58	0
Bodalla	b	87	66	0
Bourke	b	115	85	0
Br'w'rrina	b	116	66	0
Bundarra	b	84	64	0
C'md'n H	c	82	74	0
C. St. Geo	b	78	65	0
Carcoar	g	87	71	0
Casino	b	83	64	0
Cassilis	c	87	70	0
Clarence	b	88	71	0
C'nd'b'lin	c	109	61	0
Cooma	c	97	55	0·05
Coonab'n	b	96	66	0
Cowra	c	103	78	0
Deniliq'n	g	109	69	0
Dubbo	b	100	70	0
Eden	b	82	63	0
Euston	g	110	73	0
Forbes	b	101	61	0
Gl'n Inn's	b	98	59	0
Goulburn	b	90	62	0
Grafton	b	97	68	0
Gulgong	c	90	61	0
Gunned'h	b	96	70	0
Hay	b	101	75	0
Inverell	b	91	65	0
Kiandra	b	95	50	0
Lismore	b	90	73	0
Maitland	b	90	70	0
Marsdens	c	99	81	0
Menindie	g	100	81	0
Molong	c	101	66	0
M'r'ng'r'll	c	98	74	0
Moree	b	103	71	0
Moruya	b	80	67	0
Moss Vale	b	81	62	0
Mt. Hope	u	109	80	0
M. Vict'ria	b	91	51	0
Mudgee	g	98	60	0
M'rr'mb'h	u	98	71	0
M'rr'r'ndi	b	85	66	0
Mus'lbr'k	g	95	61	0
Narrabri	b	93	71	0
Newcastle	g	83	72	0
Orange	c	87	61	0
Picton	c	88	58	0
P. M'q'rie	c	85	68	0
P. St'ph'n	c	85	69	0
Q'nbeyan	b	83	67	0
Quirindi	b	92	65	0
Singleton	b	87	71	0
SYDNEY	o	82	68	0
Tamw'rth	–	–	–	–
Taralga	b	93	62	0
Taree	c	88	71	0
T'nt'rfield	–	–	–	–
Wagga	c	105	74	0
Walcha	o	84	52	0
Walgett	b	107	75	0
Warrah	b	91	65	0
W'ntw'rth	c	105	80	0
W'll'ng'ng	b	87	70	0
Young	g	103	67	0



H. C. RUSSELL
GOVERNMENT ASTRONOMER

NOTES EXPLANATORY OF MAP.

In the list of stations the column headed W.T. gives the state of the weather at 9 a.m., b standing for blue sky; c, detached clouds; d, drizzling rain; f, fog; g, gloomy; h, hazy; m, misty; n, frosty; o, overcast; p, passing showers; r, rain; s, snow; t, thunder; u, threatening. The next column, M'x gives the maximum temperature for previous 24 hours. M'n the corresponding minimum temperature; r'n, the rain for the previous 24 hours. The symbols used in the map are explained on the margin. At each coast station the wind symbol is placed like a vane pointing to the direction from which the wind is coming. A clear circle with it means fine weather; a circle with bar, cloudy weather; and a black spot, raining. Next to this symbol are placed figures denoting the number of miles the wind is moving per hour; next, a symbol showing the state of the sea; and, lastly, figures denoting the shade temperature at 9 a.m. The barometer curve shows the state of barometers round the coast from Perth to Cooktown:- Pt, Perth; Ay, Albany; Ea, Eucla; CB, Cape Borda; A, Adelaide; Re, Robe; P, Portland; M, Melbourne; WP, Wilson's Promontory; Go, Gabo; E, Eden; Ma, Moruya; CG Jervis Bay; Wg, Wollongong; S, Sydney; N, Newcastle; PM, Port Macquarie; C, Clarence River; B, Brisbane; R, Rockhampton; Ct, Cooktown. Inland the state of barometer is given in figures at Albury, Deniliquin, Wentworth Menindie, Bourke, and Alice Springs. The barometer curve enables one at a glance to trace the depressions, beginning with Western Australia, and passing along eastwards; northerly winds preceding them, and southerly following.

Western Australia.—No telegrams.

South Australia.—Generally cloudy, gloomy, and threatening south of Farina, with light variable winds and calms (chiefly north-westerly winds), fallen barometers, and moderate sea. Raining slightly at places near the coast. Very partial rain has fallen; heaviest at Eucla, 1·15; Port Lincoln, 0·22; Streaky Bay, 0·16; and Adelaide, 0·13 inches. Extremes of barometers and temperature on the coast: Adelaide, 29·81; Robe, 29·67 and 76°; Cape Borda, 69°. In Northern Territory: Daly Waters, 29·92 and 86°; Port Darwin, 29·84 and 82°.

Victoria.—Generally fine and sultry, with fresh N. to E. winds, fallen barometers, and moderate sea; misty and squally on the coast. Extremes of barometers and temperature: Omeo, 29·90; Portland, 29·69; Wilson's Promontory, 66°; and Ballarat 87°.

Tasmania.—Generally fine, with scattered clouds on north coast, light N. to N.E. winds, fallen barometers, and moderate sea. Extremes of barometers and temperature: Low Heads, 30·00; Southport, 29·86; Hobart, 73°; and Falmouth, 65°.

New Zealand.—Generally gloomy, with light variable winds and calms. Barometers: Russell, 30·3; Wellington and Bluff, 30·0.

New South Wales.—Generally cloudy and unsettled in south parts and in north coast districts; fine and warm over the remainder of the colony. Winds are light from N.E. to S.E.; barometers have risen slightly on the coast, but are falling in west parts. Sea smooth to moderate. At Cooma 0·05 inch rain has fallen. Extremes of barometers and temperature at 9 a.m.: Wollongong, 30·01; Deniliquin, 29·85; Bourke, 93°; and Cooma, 61°. Reading of the standard barometer at Sydney, corrected to 32° Fahr., and mean sea level at 9 a.m., 30·006. Extra Station: Lake Cudgellico, maximum 84°, minimum 63°; fine and cool. For further particulars see map.

Queensland.—Generally fine and hot, with light variable winds and calms, risen barometers, and smooth sea. Rainfall: 0·21 inch at Cooktown. Extremes of barometers and temperature: Cooktown, 30·01 and 89°; Rockhampton, 29·91; and Townsville, 75°.

3 P.M. OBSERVATIONS.

Victoria.—Portland, W., 8, cloudy, smooth sea, temperature 74°; Cape Otway, S.E. 8, overcast, smooth sea, temperature 70°; Melbourne, W.N.W., 8, light rain, temperature 80°; Cape Schanck, N., 13, overcast and sultry, smooth sea, temperature 75°; Wilson's Promontory, N.N.E., 23, overcast and squally, moderate sea, temperature 70°; Lakes Entrance, E., 18, overcast and sultry, temperature 78°.

New South Wales.—Menindie, N.W., 42, cloudy and hot, temperature 86°; Wentworth, W., 14, cloudy and very hot, temperature 99°; Deniliquin, W., 14, cloudy, temperature 92°; Eden, E.N.E., 28, fine but cloudy, smooth sea, temperature 76°; Moruya, N.E., 42, fresh and cloudy, moderate sea, temperature 75°; Cape St. George, S.W., 14, fine, smooth sea, temperature 76°; Sydney, E., 15, fine but cloudy, moderate sea, temperature 77°; Newcastle, N.E., 14, fine, smooth sea, temperature 76°; Port Macquarie, S.S.E., 82, fine but cloudy, smooth sea, temperature 85°; Clarence River, S., 14, fine, smooth sea, temperature 82°; Walgett, calm, fine, temperature 102°; Dubbo, E., 28, fine but cloudy, temperature 82°; Goulburn, E., 14, dull, temperature 80°.

HEIGHT OF RIVERS ABOVE SUMMER LEVEL.

Macintyre: At Mungindi, 4 feet. Barwon: At Mogil Mogil, 2 feet 9 inches; at Walgett, 5 feet. Namoi: At Walgett, low. Culgoa: At Goodooga, 4 feet 10 inches. Darling: At Brewarrina, 2 feet; at Bourke, 13 feet 8 inches; at Louth, 14 feet 3 inches; at Tilpa, 22 feet; at Wilcannia, 24 feet; at Menindie, 27 feet 1 inch; at Pooncarie, 23 feet 7 inches; at Wentworth, 14 feet 10 inches. Murrumbidgee: At Gundagai, 1 foot 9 inches; at Wagga, 2 feet 8 inches; at Hay, 1 foot; at Balranald, 7 feet. Murray: At Albury, 1 foot 6 inches; at Euston, 9 feet 9 inches.

ASTRONOMICAL MEMORANDA FOR JANUARY 14.

Sun rises at 5·5, sets at 7.13; Moon rises 10.36 p.m., sets 9.14 a.m.; Mercury, 3.57 a.m., 6.21 p.m.; Venus, 5.49 a.m. 7.53 p.m.; Mars, 6.54 a.m., 8.34 p.m.; Jupiter, 11.59 p.m., 1.7 p.m.; Saturn, 6.47 p.m., 4.45 a.m. Full moon, 10th; new moon, 24th.

High water at Fort Denison, January 14: 11.23 a.m., 11.45 p.m.

METEOROLOGICAL REPORT AND MAP FOR JANUARY 18, 1887

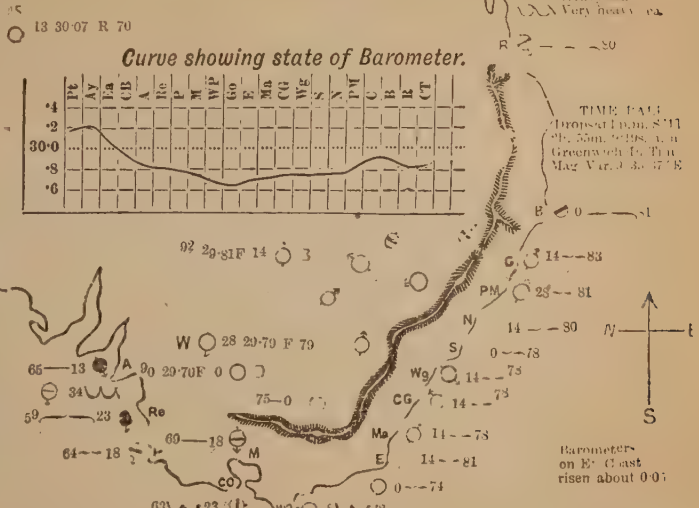
Stations	wt	Mx	Mn	R'in
Albury	b	89	61	0
Armidale	b	102	68	0
Balranald	b	99	59	0
Bathurst	b	88	54	0
Bend'm'r	g	92	69	0·21
Bodalla ..	b	82	71	0
Bourke ..	b	107	73	0
Br'w rrina	b	103	61	0
Bundarra	c	87	72	0
C'md'n H	b	80	69	0·05
C.St.Geo	b	81	62	0
Carcoar ..	b	82	61	0
Casino ..	b	93	70	0
Cassilis ..	b	83	67	0
Clarence	b	91	72	0
C'nd'b'lin	b	97	59	0
Cooma ..	b	92	55	0
Coonab'n	b	98	66	0
Cowra ..	b	95	64	0
Deniliq'n	b	105	64	0
Dubbo ..	b	95	61	0
Eden	b	87	63	0
Euston ..	b	106	68	0
Forbes ..	b	—	66	0
Gl'n Inn's	g	88	66	0
Goulburn	b	83	50	0
Grafton ..	b	103	73	0
Gulgong	b	88	53	0
Gunned'h	b	95	74	0
Hay	b	98	67	0
Inverell ..	c	87	79	0
Kiandra	b	83	40	0
Lismore	b	89	75	0·07
Maitland	b	86	67	0
Marsdens	b	88	68	0
Menindie	b	94	72	0
Molong ..	b	91	59	0
M'r'ng'r'll	b	86	62	0
Moree ..	u	96	74	0
Moruya ..	b	79	62	0
Moss Vale	b	74	60	0·04
Mt. Hope	b	105	72	0
M.Vict'ria	b	85	57	0
Mudgee	b	90	58	0
M'rr'mb'h	b	89	59	0
M'rr'r'ndi	b	81	65	0
Mus'lbr'k	b	92	65	0
Narrabri	b	99	76	0·12
Newcastle	b	82	68	0
Orange ..	b	83	53	0
Picton .	b	84	62	0
P. M'q'rie	b	85	72	0·04
P. St'ph'n	b	85	65	0
Q'nbeyan	b	81	62	0
Quirindi	b	91	68	0
Singleton	b	88	71	0
SYDNEY ..	b	80	67	0
Tamw'rth	b	94	70	0
Taralga ..	b	81	52	0
Taree ..	b	83	69	0·06
T'nt'rfield	g	86	62	0·35
Wagga ..	b	94	55	0
Walcha ..	g	81	58	0·04
Walgett ..	b	107	76	0
Warrah ..	b	84	62	0
W'ntw'rth	b	101	69	0
W'll'ng'ng	b	83	68	0
Young ..	b	91	58	0

SYDNEY OBSERVATORY

LATITUDE 33° 51' 41" S   LONGITUDE 10h. 4m. 50·8s. E

Average Annual Rainfall for 28 years...... ... 49·489
Total Rainfall for 1886 39·426
From January 1 to January 18 1887 0·451
Barometers corrected to 32° Fah. and Mean Sea Level

T. storm, winds S.
If it is CALM, the symbol is used without the arrow
Smooth sea
Heavy sea
Very heavy sea



H.C. RUSSELL
GOVERNMENT ASTRONOMER

NOTES EXPLANATORY OF MAP.

In the list of stations the column headed W.T. gives the state of the weather at 9 a.m., b standing for blue sky; c, detached clouds; d, drizzling rain; f, fog; g, gloomy; h, hazy; m, misty; n, frosty; o, overcast; p, passing showers; r, rain; s, snow; t, thunder; u, threatening. The next column. M'x gives the maximum temperature for previous 24 hours. M'n the corresponding minimum temperature; R'n the rain for the previous 24 hours. The symbols used in the map are explained on the margin. At each coast station the wind symbol is placed like a vane pointing to the direction from which the wind is coming. A clear circle with it means fine weather; a circle with bar, cloudy weather; and a black spot, raining. Next to this symbol are placed figures denoting the number of miles the wind is moving per hour; next, a symbol showing the state of the sea; and, lastly, figures denoting the shade temperature at 9 a.m. The barometer curve shows the state of barometers round the coast from Perth to Cooktown: Pt, Perth; Ay, Albany; Ea, Eucla; CB, Cape Borda; A, Adelaide; Re, Robe; P, Portland; M, Melbourne; WP, Wilson's Promontory; Go, Gabo; E, Eden; Ma, Moruya; CG, Jervis Bay; Wg, Wollongong; S, Sydney; N, Newcastle; PM, Port Macquarie; C, Clarence River; B, Brisbane; R, Rockhampton; Ct, Cooktown. Inland the state of barometer is given in figures at Albury, Deniliquin, Wentworth, Menindie, Bourke and Lee Springs. The barometer curve enables one at a glance to trace the depressions beginning with Western Australia, and passing along eastwards; northerly winds preceding them, and southerly following.

Western Australia.—Generally fine, with light easterly winds in south, and westerly in north parts, steady barometers and smooth sea. Extremes of barometers and temperature: Esperance Bay, 30·22 and 62·; Cossack, 29·71; and Carnarvon, 85·.

South Australia.—Generally clouded and unsettled, with fresh S. to S.W. winds, rising barometers, and moderate to rough sea. Squally on the coast. Scattered clouds north of Farina, and light rain in showers in and near the coast in S.E. parts. Rain has fallen south of Port Augusta, but partial; greatest at Goolwa, 0·83 inch; Victor Harbour, 0·80; Clarendon, 0·32; and Daly Waters, 0·31. Extremes of barometers and temperature: Eucla, 30·14 and 66·; Robe, 29·83 and 59·. In Northern Territory: Daly Waters, 29·84 and 79·; Port Darwin, 29·74 and 86·.

Victoria.—Fine in east, cloudy in west parts, with light S.E. to S.W. winds; fallen barometers, and rough sea. Misty on the coast. Extremes of barometers and temperature: Cape Otway, 29·81 and 63·; Wilson's Promontory, 29·68; and Omeo, 73·.

Tasmania.—Generally fine, with light easterly winds; fallen barometers, and smooth to moderate sea. Rainfall at Southport, 0·02 inch. Extremes of barometers and temperature: Falmouth, 29·70; Southport, 29·64 and 70·; Hobart, 62·.

New Zealand.—Generally fine, with variable winds, and barometers at 30·2 inches. Passing showers from S.W. in extreme north parts.

New South Wales.—Generally fine and warm, with light northerly winds, fallen barometers, and smooth sea; light rain has fallen in N.E. parts, where it is still more or less unsettled. Extremes of barometers and temperature at 9 a.m.: Clarence, 29·90; Gabo Island, 29·64; Bourke, 92·; and Cooma, 58·. Reading of the standard barometer at Sydney, corrected to 32° Fahr., and mean sea level at 9 a.m., 29·743. Extra Station: Lake Cudgellico, maximum 91·, minimum 70·; fine, clear, and hot. For further particulars see map.

Queensland.—Generally calm, with steady barometers and smooth sea; fine in north parts, cloudy and gloomy in south. Rainfall: Townsville, 1·25; Rockhampton, 0·19 inch. Extremes of barometers and temperature: Cooktown, 29·92 and 89·; Rockhampton, 29·84 and 80·.

3 P.M. OBSERVATIONS.

Victoria.—Barometers rising. Portland, S., 24, showery, smooth sea, temperature 65·; Cape Otway, S.W., 30, showery, rough sea, temperature 60·; Melbourne, S., 12, threatening rain, temperature 67·; Cape Schanck, S., 6, thunder in S.W., moderate sea, temperature 69·; Wilson's Promontory, W.S.W., 24, squally, rough sea, temperature 69·; Lakes Entrance, S., 6, cloudy, temperature 57·.

New South Wales.—Menindie, W., 42, squally, temperature 85·; Wentworth, S.E., 14, stormy and close, temperature 76·; Deniliquin, W.S.W., 11, like change, temperature, 96·; Eden, E.N.E., 14, fine, smooth sea, temperature 76·; Moruya, E.S.E., 14, fine, smooth sea, temperature 84·; Cape St. George, W., 14, fine, smooth sea, temperature 76·; Sydney, N.E., 20, thunderstorm coming up, smooth sea, temperature 79·; Newcastle, N.E., 14, fine, moderate sea, temperature 82·; Port Macquarie, N.E., 14, like thunderstorm, smooth sea, temperature 84·; Clarence River, N.E., 14, fine, rough sea, temperature 84·; Walgett, N.E., 14, cloudy and sultry, temperature 93·; Dubbo, W., 14, fine, but squally looking, temperature 87·; Goulburn, N.W., 14, fine, temperature 77·.

HEIGHT OF RIVERS ABOVE SUMMER LEVEL.

Macintyre: At Mungindi, 3 feet. Barwon: At Mogil Mogil, low; at Walgett, 2 feet 6 inches. Namoi: At Walgett, low. Culgoa: At Goodooga, 3 feet 10 inches. Darling: At Brewarrina, 6 feet; at Bourke, 7 feet 10 inches; at Louth, 9 feet; at Tilpa, 17 feet; at Wilcannia, 18 feet 6 inches; at Menindie, 26 feet 9 inches; at Pooncarie, 23 feet 10 inches; at Wentworth, 13 feet 9 inches. Murrumbidgee: At Gundagai, 1 foot; at Wagga, 2 feet; at Hay, 2 feet; at Balranald, 4 feet 8 inches. Murray: At Albury, 1 foot 6 inches; at Euston, 7 feet

ASTRONOMICAL MEMORANDA FOR JANUARY 19.

Sun rises at 5.10, sets 7.11; Moon, 1.14 a.m., 2.32 p.m.; Mercury, 4.12 a.m., 6.34 p.m.; Venus, 6.0 a.m., 7.54 p.m; Mars, 6.54 a.m., 8.27 p.m.; Jupiter, 11.40 p.m., 12.50 p.m.; Saturn, 6.26 p.m., 4.24 a.m. Full moon, 10th; new moon, 24th.

High water at Fort Denison, January 19: 3.34 a.m., 4.12 p.m.

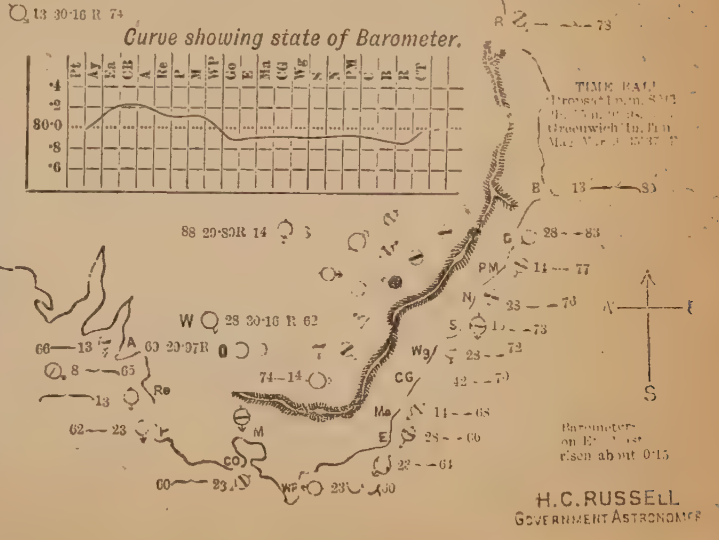
METEOROLOGICAL REPORTS AND MAP FOR JANUARY 19, 1887.

SYDNEY OBSERVATORY.
LATITUDE 33° 51' 41" S   LONGITUDE 10h. 1m 50·8s. E.

Average Annual Rainfall for 28 years...... 49·489
Total Rainfall for 1886 35·426
From January 1 to January 19, 1887 0·41
Barometers corrected to 32° Fah. and Mean Sea Level

T. storm
Heavy sea
Very heavy sea

Stations	wt	Mx	mn	R
Albury	b	97	64	[illegible]
Armidale	g	[illegible]	60	1·24
Balranald	b	112	59	0
Bathurst	g	98	64	0·14
Bend'm'r	r	91	66	0·32
Bodalla ..	g	91	69	0·30
Bourke ..	b	116	77	0
Br'w'rrina	b	118	64	0
Bundarra	c	87	73	0·56
C'md'n H	c	87	75	0·05
C. St. Geo	c	87	64	0
Carcoar ..	g	85	66	0·10
Casino ..	b	96	66	0
Cassilis ..	o	92	71	0·10
Clarence	b	89	74	0
C'nd'b'lin	b	107	59	0
Cooma ..	c	100	57	0·23
Coonab'n	u	100	66	0·74
Cowra ..	g	102	72	0·23
Deniliq'n	b	107	57	0
Dubbo ..	c	102	68	0·05
Eden	o	85	61	0·02
Euston ..	b	91	55	0
Forbes ..	g	—	71	0
Gl'n Inn's	g	94	62	1·92
Goulburn	g	99	63	0·22
Grafton ..	b	105	74	0·03
Gulgong	u	91	60	0·89
Gunned'h	c	100	73	0·50
Hay	b	102	61	0
Inverell ..	c	90	68	2·05
Kiandra	c	86	40	0·16
Lismore	b	91	74	0
Maitland	b	103	71	0·43
Marsdens	b	99	75	0·09
Menindie	b	89	62	0
Molong ..	c	99	63	0·12
M'r'ng'r'll	u	99	71	0
Moree ..	g	95	72	0
Moruya ..	g	84	64	0
Moss Vale	u	88	66	0·18
Mt. Hope	g	102	72	0
M. Vict'ria	r	93	52	0·17
Mudgee	r	93	59	0·77
M'rr'mb'h	c	94	69	0
M'rr'r'ndi	c	91	72	0·44
Mus'lbr'k	c	103	64	0·04
Narrabri	o	101	84	0·48
Newcastle	c	87	68	1·20
Orange ..	c	90	62	0·23
Picton ..	r	90	65	0·05
P. M'q'rie	c	86	73	0·04
P. St'ph'n	c	90	66	0·07
Q'nbeyan	c	89	66	0·03
Quirindi	g	95	68	0·28
Singleton	g	98	74	0
SYDNEY ..	u	85	72	0·01
Tamw'rth	c	99	68	0·90
Taralga ..	g	88	52	0·17
Taree ..	g	96	69	0·07
T'nt'rfield	g	89	71	0·95
Wagga ..	g	101	65	0
Walcha ..	r	88	57	0·25
Walgett ..	b	110	73	0
Warran ..	c	94	66	0·54
W'ntw'rth	b	88	56	0
W'll'ng'ng	c	90	73	0
Young ..	g	102	66	0·05



H.C. RUSSELL
GOVERNMENT ASTRONOMER

NOTES EXPLANATORY OF MAP.

In the list of stations the column headed W.T. gives the state of the weather at 9 a.m., b standing for blue sky; c, detached clouds; d, drizzling rain; f, fog; g, gloomy; h, hazy; m, misty; n, frosty; o, overcast; p, passing showers; r, rain; s, snow; t, thunder; u, threatening. The next column, M'x gives the maximum temperature for previous 24 hours. M'n the corresponding minimum temperature; r n the rain for the previous 24 hours. The symbols used in the map are explained on the margin. At each coast station the wind symbol is placed like a vane pointing to the direction from which the wind is coming. A clear circle with it means fine weather; a circle with bar cloudy weather; and a black spot, raining. Next to this symbol are placed figures denoting the number of miles the wind is moving per hour; next, a symbol showing the state of the sea; and, lastly, figures denoting the shade temperature at 9 a.m. The barometer curve shows the state of barometers round the coast from Perth to Cooktown. Pt. Perth; Ay, Albany; Ea, Eucla; CB, Cape Borda; A, Adelaide; Re, Robe; P, Portland; M, Melbourne; WP, Wilson's Promontory; Go, Gabo; E, Eden; Ma, Moruya; CJ, Jervis Bay; Wg, Wollongong; S, Sydney; N, Newcastle; PM, Port Macquarie; C, Clarence River; B, Brisbane; R, Rockhampton; Ct, Cooktown. Inland the state of barometer is given in figures at Albury, Deniliquin, Wentworth, Menindie, Bourke, Springs. The barometer curve ... at a glance to trace the ... beginning with Western Australia, and passing along eastwards; northerly winds preceding them, and southerly following.

Western Australia.—Cloudy and threatening in north, fine and clear in south ports, with light easterly winds and smooth to moderate sea. Extremes of barometers and temperature: Esperance Bay, 30·12 and 64·; Cossack, 29·68; and Ashburton, 90·.

South Australia.—Generally fine, clear, and cool inland, scattered clouds on and near the coast, with fresh S.E. to S.W. winds, risen barometers, and smooth sea. Rainfall: Wellington, 1·28 inch; Yam Creek, 0·35; Robe, 0·27; and M'Donnell Bay, 0·03. Extremes of barometers and temperature near the coast: Cape Borda, 30·21; Farina, 29·98; and M'Donnell Bay, 62·. In Northern Territory: Daly Waters, 29·89 and 82·; Port Darwin, 29·75 and 86·.

Victoria.—Generally fine, but more or less cloudy, with fresh S. to S.W. winds, risen barometers, and moderate sea. Rainfall: Hamilton, 0·47; Portland, 0·27; Cape Otway, 0·21; Wilson's Promontory, 0·19; Omeo, 0·18; Melbourne, 0·31; and Lakes Entrance, 0·56. Extremes of barometers and temperature: Cape Otway, 30·12; Omeo, 30·02 and 56·; Horsham, 74·.

Tasmania.—Generally fine, but cloudy, with light south to west winds, risen barometers, and moderate sea. Rainfall: Falmouth, 0·59; Hobart, 0·29; and Low Heads, 0·02 inch. Extremes of barometers and temperature: Low Heads, 29·99, and 65·; Falmouth, 29·94 and 58·.

New Zealand.—Passing showers at Gisborne and Bluff, gloomy in extreme north, and fine at Wellington. Barometers: Russell, 30·2; Gisborne, 30·3; Wellington, 30·1; and Bluff, 50·2.

New South Wales.—Generally overcast and threatening, with fresh S. to E. winds, rising barometers, and smooth to moderate sea; fine in W. and S.W. parts; raining in parts of the range in the north; light rain has fallen generally; heaviest in N.E. parts; several stations on and near the range report from one to two inches fallen. Extremes of barometers and temperature at 9 a.m.: Wentworth and Menindie, 89·16; Walgett and Gabo Island, 29·89; Bourke, 88·; and Cooma, 59·. Reading of the standard barometer at Sydney, corrected to 32· Fahr., and mean sea level at 9 a.m., 29·9. Extra Stations: Camden, rainfall, 0·43 inch, and dull weather. Lake Cudgellico, maximum 110·, minimum 70·; cloudy and dull. For further particulars see map.

Queensland.—Generally cloudy and unsettled, with easterly winds in south, and calms in north, steady barometers and smooth sea; heavy showers at Townsville, 3·35 inches fell in thunderstorm last night at Brisbane. Extremes of barometers and temperature: Cooktown, 29·98 and 97·; Rockhampton, 29·84; and Townsville, 75·.

3 P.M. OBSERVATIONS.

Victoria.—Portland, S.S.W., 23, fine, smooth sea, temperature 66·; Cape Otway, W.S.W., 18, fine, smooth sea, temperature 66·; Melbourne, S., 18, fine, temperature 67·; Cape Schanck, S., S., fine but cloudy, smooth sea, temperature 67·; Wilson's Promontory, S.W., 28, fine but cloudy, rough sea, temperature 65·; Lakes Entrance, W.S.W., cloudy and threatening, temperature 65·.

New South Wales.—Menindie, S., fine, temperature 77·; Wentworth, S.E., fine and cool, temperature 70·; Deniliquin, calm, fine, temperature, 70·; Eden, S., 23, cloudy, smooth sea, temperature 67·; Moruya, S., 28, cloudy, smooth sea, temperature 67·; Cape St. George, S., 42, cloudy, smooth sea, temperature 69·; Sydney, S.S.E., 20, overcast and gloomy, smooth sea, temperature 73·; Newcastle, S., 28, showery, smooth sea, temperature 72·; Port Macquarie, S.E., 11, sultry, smooth sea, temperature 85·; Clarence River, N.E., 11, fine, smooth sea, temperature 83·; Dubbo, N.E., stormy looking, temperature 80·; Goulburn, E., dull, temperature 76·.

Brisbane, 3 p.m.—Temperature 85·26, cloudy, barometer 29·85.

HEIGHT OF RIVERS ABOVE SUMMER LEVEL.

Macintyre: At Mungindi, 2 feet 6 inches. Barwon: At Mogil Mogil, low; at Walgett, 2 feet. Namoi: At Walgett, low. Culgoa: At Goodooga, 3 feet 8 inches. Darling: At Brewarrina, summer level; at Bourke, 6 feet 10 inches; at Louth, 8 feet; at Tilpa, 14 feet 6 inches; at Wilcannia, 18 feet; at Menindie, 26 feet 8 inches; at Wentworth, 13 feet 7 inches. Murrumbidgee: At Gundagai, 1 foot; at Wagga, 2 feet; at Hay, 2 feet 3 inches; at Balranald, 4 feet 5 inches. Murray: At Albury, 1 foot 7 inches; at Euston, 6 feet 6 inches.

ASTRONOMICAL MEMORANDA FOR JANUARY 20.

Sun rises at 5.11, sets 7.11; Moon, 1.58 a.m., 3.39 p.m.; Mercury, 4.15 a.m., 6.36 p.m.; Venus, 6.2 a.m., 7.54 p.m; Mars, 6.54 a.m., 8.25 p.m.; Jupiter, 11.36 p.m., 12.46 p.m.; Saturn, 6.22 p.m., 4.20 a.m. Full moon, 10th; new moon, 24th.
High water at Fort Denison, January 20: 4.19 a.m. 5.26 p.m.

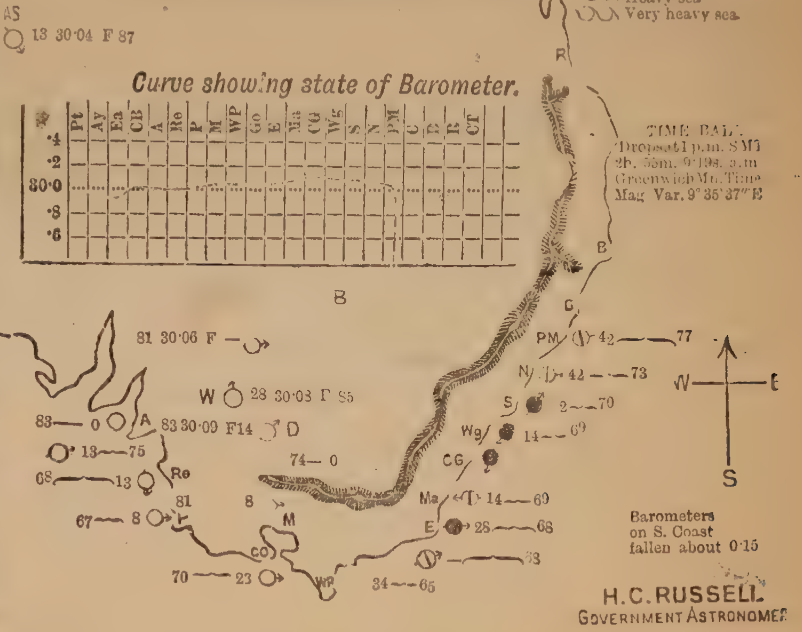
METEOROLOGICAL REPORTS AND MAP FOR JANUARY 21, 1887.

Stations	wt	Mx	Mn	R'in
Albury		93	65	0
Armidale	u	70	64	1·46
Balranald	b	107	66	0
Bathurst	r	66	60	0·76
Bend'm'r	r	72	65	0·74
Bodalla ..	g	75	59	0·31
Bourke ..	-	—	—	-
Br'w rrina	-	—	—	-
Bundarra	c	80	69	0·72
C'md'n H	u	86	74	0·24
C.St.Geo	r	68	60	1·07
Carcoar ..	g	69	56	0·03
Casino ..	-	—	—	-
Cassilis ..	r	69	65	1·47
Clarence	-	—	—	-
C'nd'b'lin	u	92	56	0
Cooma ..	r	81	60	0·07
Coonab'n	u	76	63	0·47
Cowra ..	r	86	62	0·28
Deniliq'n	b	103	62	0
Dubbo ..	p	77	64	0·10
Eden	r	73	62	0·72
Euston ..	b	98	65	0
Forbes ..	r	—	66	0·23
Gl'n Inn's	u	68	63	1·80
Goulburn	r	64	56	0·48
Grafton ..	-	—	—	-
Gulgong	u	70	50	0·80
Gunned'h	r	79	66	0·13
Hay	b	98	69	0
Inverell ..	o	80	70	0·50
Kiandra	r	68	50	0·32
Lismore	-	—	—	-
Maitland	r	81	66	1·53
Marsdens	c	89	72	0
Menindie	b	88	69	0
Molong ..	u	79	61	0·10
M'r'ng'r'll	b	87	67	0·14
Moree ..	g	87	68	0·06
Moruya ..	g	73	65	0·30
Moss Vale	r	65	57	0·64
Mt. Hope	b	100	68	0
M.Vict'ria	r	64	57	0
Mudgee	p	70	57	0·75
M'rr'mb'h	r	87	65	0·70
M'rr'r'ndi	r	70	65	0·40
Mus'lbr'k	u	87	72	0·68
Narrabri	r	75	66	0·35
Newcastle	o	75	68	0·92
Orange ..	r	67	56	0·27
Picton .	r	68	63	0·85
P. M'q'rie	o	82	71	0·37
P. St'ph'n	r	76	66	0·25
Q'nbeyan	r	71	62	0·3
Quirindi	g	80	68	0·2
Singleton	d	72	69	0·8
SYDNEY ..	r	70	65	1·9
Tamw'rth	r	80	67	0·3
Taralga ..	-	—	—	-
Taree ..	p	82	71	0·72
T'nt'rfield	r	72	65	2·55
Wagga ..	b	94	64	0
Walcha ..	r	70	57	1·28
Walgett ..	b	84	65	0·02
Warrah ..	r	71	64	0·26
W'ntw'rth	b	93	66	0
W'll'ng'ng	r	69	64	1·24
Young ..	r	86	62	0·45

SYDNEY OBSERVATORY.
LATITUDE 33° 51' 41" S LONGITUDE 10h. 4m 50·81s. E

Average Annual Rainfall for 28 years.. .... 49·489
Total Rainfall for 1886 39·426
From January 1 to January 21 1887 3·703
Barometers corrected to 32° Fah. and Mean Sea Level

Fine, wind N; Cloud, in E; T. storm, wind S.; Rain, wind W.
If it is CALM, the symbol is used without the arrow
Smooth sea
Heavy sea
Very heavy sea.



H. C. RUSSELL
GOVERNMENT ASTRONOMER

NOTES EXPLANATORY OF MAP.

In the list of stations the column headed W.T. gives the state of the weather at 9 a.m., b standing for blue sky; c, detached clouds; d, drizzling rain; f, fog; g, gloomy; h, hazy; m, misty; n, frosty; o, overcast; p, passing showers; r, rain; s, snow; t, thunder; u, threatening. The next column. M'x gives the maximum temperature for previous 24 hours. M'n the corresponding minimum temperature; r'n. the rain for the previous 24 hours. The symbols used in the map are explained on the margin. At each coast station the wind symbol is placed like a vane pointing to the direction from which the wind is coming. A clear circle with it means fine weather; a circle with bar, cloudy weather; and a black spot, raining. Next to this symbol are placed figures denoting the number of miles the wind is moving per hour; next, a symbol showing the state of the sea; and, lastly, figures denoting the shade temperature at 9 a.m. The barometer curve shows the state of barometers round the coast from Perth to Cooktown:—Pt, Perth; Ay, Albany; Ea, Eucla; CB, Cape Borda; A, Adelaide; Re, Robe; P, Portland; M, Melbourne; WP, Wilson's Promontory; Go, Gabo; E, Eden; Ma, Moruya; CG Jervis Bay; Wg, Wollongong; S, Sydney; N, Newcastle; PM, Port Macquarie; C, Clarence River; B, Brisbane; R, Rockhampton; Ct, Cooktown. Inland the state of barometer is given in figures at Albury, Deniliquin, Wentworth, Menindie, Bourke, and Alice Springs. The barometer curve enables one at a glance to trace the depressions, beginning with Western Australia, and passing along eastwards; northerly winds preceding them, and southerly following.

New South Wales.—Cloudy generally to the east of the range, with rainy weather or else threatening at all the stations, while to the W. and S.W., on the Darling and Murray watersheds, the weather is fine and clear; the barometer shows a fall since yesterday, averaging ·07 of an inch; heavy sea reported at Camden Haven. Additional Stations: Coonamble, calm, rainfall 2·50 inches, raining steadily; Hill End, calm, 0·55 rain, and dull; Wilcannia, calm, fine, and clear; Lake Cudgellico, S.E., max. 80°, min. 66°, fine, hot; Camden, 1·02 rain; Bega, 0·71 rain. Showery all night at Sydney; about 6.10 a.m. thunder was heard and a very heavy shower came on during which half an inch of rain fell. Some of this rain fell at the rate of 3·40 inches per hour; 0·20 inch fell in 7½ minutes, 6.35 a.m. to 6.42½ a.m. At Hyrcinia, Fairfield, from 5.30 p.m. on 19th to 7 a.m. on 21st 2·27 inches rain fell.

Queensland.—Lines interrupted.

Western Australia.—Cloudy at Ashburton, Carnarvon, Albany, and Esperance Bay. The weather is sultry at the latter station and threatening at Ashburton; wind generally light, and from E. to S.E.; smooth and moderate sea on coast.

South Australia.—Fine throughout and warm, with light S.E. to N.E. winds and calm. At Port Darwin this morning 1.23 inches of rain were recorded, and 0·75 at Yam Creek. Smooth sea on the coast. The barometer has fallen about 0·15 since yesterday.

Victoria.—Fine generally, with the wind blowing fresh between N. and E.; squally and foggy at Wilson's Promontory, and hazy at Cape Schanck, at which place a slight sea is reported as being on coast. The barometer has fallen about ·15 since yesterday.

New Zealand.—Russell: Barometer, 30·3; N.E. and gloomy. Wellington: 30·3; S.E. and fine. Bluff: 30·4; E., fine.

Tasmania.—Cloudy weather at Circular Head, Low Head, and Falmouth; sea dead calm at the latter place and rough at Circular Head; wind between E. and N. and fresh.

3 P.M. OBSERVATIONS.

Victoria.—No telegrams.

New South Wales.—Menindie, variable, fine, hot, temperature 82°; Wentworth, S.E., fine, temperature 84°; Deniliquin, calm, fine, cloudy, temperature, 89°; Eden, E., light, raining, light E. sea, temperature 69°; Moruya, N.E., light, thick rain, smooth sea, temperature 69°; Cape St. George, N., light, cloudy, smooth sea, temperature 72°; Sydney, E.N.E., fresh, cloudy, showery, moderate sea, temperature 74°; Newcastle, E., fresh, raining, moderate sea, temperature 74°; Port Macquarie, E.S.E., strong, cloudy, moderate sea, temperature 81°; Dubbo, E., raining, temperature 74°; Goulburn, E., raining, temperature 68°.

HEIGHT OF RIVERS ABOVE SUMMER LEVEL.

Macintyre: At Mungindi, low. Barwon: At Mogil Mogil, low; at Walgett, low. Namoi: At Walgett, low. Culgoa: At Goodooga, 3 feet 4 inches, falling. Darling: At Brewarrina, summer level; at Bourke, 5 feet, falling; at Louth, 7 feet 3 inches, falling; at Tilpa, 10 feet 6 inches, falling; at Wilcannia, 15 feet 2 inches, falling; at Menindie, 26 feet 6 inches; at Pooncarie, 23 feet 10 inches; at Wentworth, 13 feet 3 inches. Murrumbidgee: At Gundagai, 1 foot, stationary; at Wagga, 1 foot 9 inches; at Hay, 1 foot 9 inches, falling; at Balranald, 3 feet. Murray: At Albury, 1 foot 1 inch; at Euston, 5 feet.

ASTRONOMICAL MEMORANDA FOR JANUARY 22.

Sun rises at 5.13, sets 7.10; Moon, 3.35 a.m., 5.21 p.m.; Mercury, 4.23 a.m., 6.41 p.m.; Venus, 6.7 a.m., 7.55 p.m; Mars, 6.54 a.m., 8.22 p.m.; Jupiter, 11.39 p.m., 12.39 p.m.; Saturn, 6.13 p.m., 4.11 a.m. Full moon, 10th; new moon, 24th.

High water at Fort Denison, January 22: 6.55 a.m. 7.21 p.m.

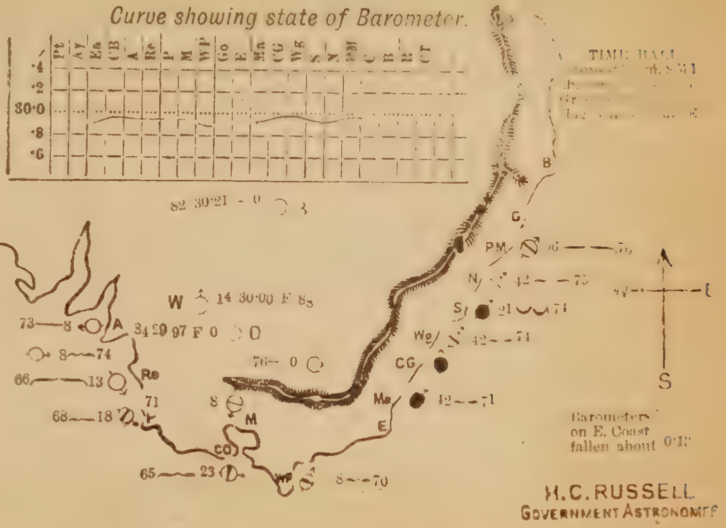
METEOROLOGICAL REPORTS AND MAP FOR JANUARY 22, 1887

Stations	W.T.	Mx	Mn	r'n
Albury	b	91	61	0
Armidale	u	[illegible]	[illegible]	[illegible]
Balranald	b	[illegible]	[illegible]	[illegible]
Bathurst	d	[illegible]	[illegible]	[illegible]
Bend'm'r	g	[illegible]	[illegible]	[illegible]
Bodalla	r	[illegible]	[illegible]	[illegible]
Bourke	b	[illegible]	[illegible]	[illegible]
Br'w'rrina	–			
Bundarra	u	[illegible]	[illegible]	[illegible]
C'nd'n H	c	[illegible]	[illegible]	[illegible]
C. St. Geo	p	[illegible]	[illegible]	[illegible]
Carcoar	g	[illegible]	[illegible]	[illegible]
Casino	–	–		
Cassilis	r	74	68	[illegible]
Clarence	–	–		
C'nd'b'lin	u	83	53	[illegible]
Cooma	r	71	60	[illegible]
Coonab'n	u	84	61	0·15
Cowra	g	81	[illegible]	[illegible]
Deniliq'n	b	104	61	0
Dubbo	u	78	64	1·86
Eden	–	–	–	–
Euston	b	108	68	0
Forbes	u	–	66	0·92
Gl'n Inn's	r	71	65	0·56
Goulburn	r	69	60	1·02
Grafton	–	–	–	–
Gulgong	u	75	60	0·70
Gunned'h	r	79	67	0·22
Hay	b	96	69	0
Inverell	r	84	70	0·67
Kiandra	r	58	51	2·60
Lismore	–	–	–	–
Maitland	o	78	73	0·69
Marsdens	p	78	71	0·01
Menindie	b	91	75	0
Molong	o	74	62	1·77
M'r'ng'r'll	c	72	68	0·36
Moree	u	80	72	0·39
Moruya	r	74	68	2·23
Moss Vale	d	87	64	0·57
Mt. Hope	b	99	66	0
M. Vict'ria	r	69	60	1·00
Mudgee	u	79	57	0·69
M'rr'mb'h	r	70	61	1·29
M'rr'r'ndi	o	74	68	0·43
Mus'lbr'k	u	71	67	0·23
Narrabri	r	77	68	0·51
Newcastle	g	77	73	0·65
Orange	g	79	57	1·68
Picton	d	72	62	1·37
P. M'q'rie	o	81	74	0·16
P. St'ph'n	o	72	67	0·05
Q'nbeyan	–	–	–	–
Quirindi	c	80	70	0·16
Singleton	r	75	73	0·60
Sydney	b	75	71	0·17
Tamw'rth	u	84	68	0·21
Taralga	r	68	48	1·25
Taree	g	80	74	0·25
T'nt'rfield	r	73	66	3·10
Wagga	b	80	67	0
Walcha	d	73	61	0·21
Walgett	b	89	67	0·87
Warrah	b	79	63	0·21
W'ntw'rth	b	105	72	0
W'll'ng'ng	c	76	70	0·23
Young	d	73	64	1·20

SYDNEY OBSERVATORY.
LATITUDE 33° 51' 41" S LONGITUDE 10h. 4m [illegible]
Average Annual Rainfall for [illegible]
Total [illegible]
From January 1 to January [illegible] 1887
Barometers corrected to 32° Fah. and Mean Sea [illegible]

If it is CALM [illegible]

TIME BALL [illegible]



Barometers on E. Coast fallen about 0·1[illegible]

H. C. RUSSELL
GOVERNMENT ASTRONOMER

NOTES EXPLANATORY OF MAP.

In the list of stations the column headed W.T. gives the state of the weather at 9 a.m., b standing for blue sky; c, detached clouds; d, drizzling rain; f, fog; g, gloomy; h, hazy; m, misty; n, frosty; o, overcast; p, passing showers; r, rain; s, snow; t, thunder; u, threatening. The next column, M'x gives the maximum temperature for previous 24 hours. M'n the corresponding minimum temperature; r'n, the rain for the previous 24 hours. The symbols used in the map are explained on the margin. At each coast station the wind symbol is placed like a vane pointing to the direction from which the wind is coming. A clear circle with it means fine weather; a circle with bar, cloudy weather; and a black spot, raining. Next to this symbol are placed figures denoting the number of miles the wind is moving per hour; next, a symbol showing the state of the sea; and, lastly, figures denoting the shade temperature at 9 a.m. The barometer curve shows the state of barometers round the coast from Perth to Cooktown:—Pt, Perth; Ay, Albany; Ea, Eucla; CB, Cape Borda; A, Adelaide; Re, Robe; P, Portland; M, Melbourne; WP, Wilson's Promontory; Go, Gabo; E, Eden; Ma, Moruya; CG, Jervis Bay; Wg, Wollongong; S, Sydney; N, Newcastle; PM, Port Macquarie; C, Clarence River; B, Brisbane; R, Rockhampton; Ct, Cooktown. Inland the state of barometer is given in figures at Albury, Deniliquin, Wentworth, Menindie, Bourke, and Alice Springs. The barometer curve enables one at a glance to trace the depressions, beginning with Western Australia, and passing along eastwards; northerly winds preceding them, and southerly following.

New South Wales.—Weather the same as yesterday, viz., cloudy and raining on the eastern slope, and still fine to the westward along the Darling and Murray watersheds. Also hot wind, chiefly E. to S.E., blowing strongest on and near the coast. Additional stations: Coonamble, calm and dull; Hill End, calm, like rain, rainfall 0·52; Wilcannia, calm, fine, clear; Lake Cudgellico, S.E. wind, max. 87, min. 65; Tumut, rainfall, 2·29 inches; Camden, 1·35 inches; Bega, rainfall, 2·36 inches on 21st, still raining heavily on Saturday morning.

South Australia.—Cloudy weather only at Port Darwin and Yam Creek; 0·03 inches of rain recorded at the first-named station. Generally fine and warm throughout the colony, with light wind from E. to S. A slight fall of ·07 in the barometer since yesterday.

Victoria.—Weather threatening at Lakes Entrance and Hamilton, and dense fog at Cape Schanck, Wilson's Promontory, and Cape Otway; at the lastnamed place the fog came on at 10.40 p.m. last night, and detonating rockets were fired at 1 a.m., and were still being fired at 9 a.m. Rainfall at Wilson's Promontory 0·03, and the same at Lakes Entrance; wind generally S.E. to N.E. and light, smooth and moderate sea on coast. The barometer has fallen about ·13 since yesterday.

Tasmania.—Fresh N.E. breeze, and overcast at Low Head, otherwise it is generally fine, with slight sea at Southport.

New Zealand.—Russell: barometer 30·3 and S.E. wind; Wellington, 30·4, wind S.E.; Bluff, N., fine, cloudy.

3 P.M. OBSERVATIONS.

New South Wales.—Menindie, W.S.W., fine, hot, temperature 91°; Wentworth, W., fine, hot, temperature 98°; Deniliquin, S., fine, hot, temperature, 92°; Eden, steady rain, moderate sea, temperature 67°; Moruya, W.S.W., 14, thick, raining heavily, fresh in river, smooth sea, temperature 70°; Cape St. George, N.E., 42, moderate sea, temperature 72°; Sydney, N.E., fresh, cloudy, moderate sea; Newcastle, moderate, N.E., dull, moderate sea, temperature 75°; Port Macquarie, N.E., 56, cloudy, moderate sea, temperature 79°; Walgett, calm, cloudy, hot, temperature 90°; Dubbo, E., 28, fine, temperature 82°; Queanbeyan, N., still pouring rain, temperature 63°; Goulburn, E.N.E., showery.

HEIGHT OF RIVERS ABOVE SUMMER LEVEL.

Macintyre: At Mungindi, low. Barwon: At Mogil Mogil, low; at Walgett, low. Namoi: At Walgett, low. Culgoa: At Goodooga, 3 feet 2 inches, falling. Darling: At Brewarrina, summer level; at Bourke, 4 feet, falling; at Louth, 7 feet 10 inches, falling; at Tilpa, 9 feet, falling; at Wilcannia, 15 feet, falling; at Menindie, 26 feet 5 inches; at Pooncarie, 23 feet 9 inches, falling slowly; at Wentworth, 13 feet 1 inch. Murrumbidgee: At Gundagai, 1 foot 6 inches, rising; at Wagga, 1 foot 6 inches; at Hay, 1 foot 6 inches, falling; at Balranald, 2 feet 9 inches. Murray: At Albury, 1 foot 2 inches; at Euston, 14 feet 6 inches.

ASTRONOMICAL MEMORANDA FOR JANUARY 24.

Sun rises at 5.15, sets 7.9; Moon, 5.21 a.m., 6.55 p.m.; Mercury, 4.31 a.m., 6.46 p.m.; Venus, 6.11 a.m., 7.55 p.m.; Mars, 6.53 a.m., 8.19 p.m.; Jupiter, 11.29 p.m., 12.31 p.m.; Saturn, 6.5 p.m., 4.3 a.m. Full moon, 10th; new moon, 24th.

High water at Fort Denison, January 24: 8.24 a.m. 8.44 p.m.

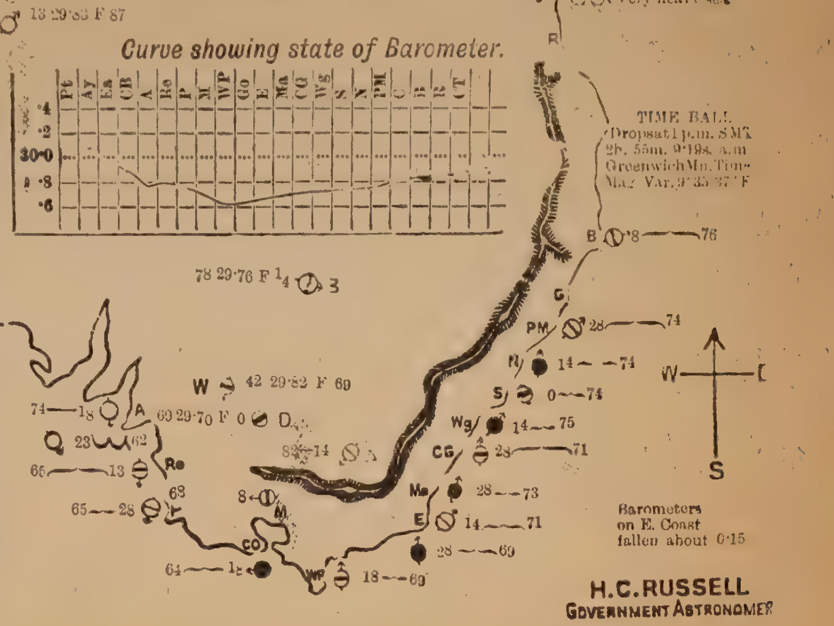
METEOROLOGICAL REPORTS AND MAP FOR JANUARY 24, 1887.

Stations	W.T.	Mx	Mn	R'n
Albury	c	101	71	0
Armidale	c	86	67	0·67
Balranald	c	117	57	0
Bathurst	g	8	68	0·51
Bend'm'r	u	76	70	1·09
Bodalla ..	g	83	67	3·63
Bourke ..	g	104	74	2·14
Br'w rrina	–	—	—	-
Bundarra	c	78	70	1·49
C'md'n H	c	79	73	0·30
C.St.Geo	c	74	70	0·12
Carcoar ..	r	78	69	0·30
Casino ..	-	—	—	-
Cassilis ..	c	83	72	0·55
Clarence	-	—	—	-
C'nd'b'lin	r	99	60	0·97
Cooma ..	c	89	67	0
Coonab'n	r	93	64	0·84
Cowra ..	g	97	73	1·20
Deniliq'n	g	111	58	0
Dubbo ..	b	97	73	0
Eden	c	79	69	0·08
Euston ..	c	114	74	0
Forbes ..	u	—	65	0·35
Gl'n Inn's	r	76	66	0·52
Goulburn	g	82	66	0·44
Grafton ..	-	—	—	-
Gulgong	u	85	64	1·98
Gunned'h	c	89	73	0·11
Hay	c	102	69	0
Inverell ..	o	81	72	1·24
Kiandra	f	80	52	0·09
Lismore	-	—	—	-
Maitland	c	87	77	0·14
Marsdens	u	95	73	1·14
Menindie	u	100	80	0
Molong ..	b	90	68	1·26
M'r'ng'r'll	u	92	74	0·17
Moree ..	u	87	72	0·80
Moruya ..	r	82	70	0·15
Moss Vale	u	78	67	0·49
Mt. Hope	r	107	73	0·22
M.Vict'ria	u	79	63	0·47
Mudgee	u	91	57	0·50
M'rr'mb'h	r	89	68	0·48
M'rr'r'ndi	c	76	68	4·62
Mus'lbr'k	u	92	70	0·45
Narrabri	g	71	60	0·33
Newcastle	r	79	73	0·17
Orange ..	c	81	66	2·51
Picton .	f	79	69	0·26
P. M'q'rie	c	75	69	0·41
P. St'ph'n	c	78	70	0·03
Q'nbeyan	u	81	66	1·36
Quirindi	u	80	53	1·80
Singleton	u	80	71	0·94
SYDNEY ..	o	75	72	0·13
Tamw'rth	c	83	54	0·48
Taralga ..	b	83	61	0·80
Taree ..	c	78	73	0·33
T'nt'rfield	u	83	69	2·42
Wagga ..	c	103	69	0
Walcha ..	u	73	68	1·56
Walgett ..	c	102	73	0
Warrah ..	u	80	65	2·46
W'ntw'rth	c	109	69	0
W'll'ng'ng	r	75	72	0·04
Young ..	r	86	69	0·59

SYDNEY OBSERVATORY
LATITUDE 33° 51' 41" S LONGITUDE 10h. 4m. 50·8s. E

Average Annual Rainfall for 28 years...... ... 49·480
Total Rainfall for 1886 39·426
From January 1 to January 24 1887 3·398
Barometers corrected to 32° Fah. and Mean Sea Level

T. storm. Rain. Calm.
If a calm, the symbol is used without the arrow
Smooth sea.
Heavy sea
Very heavy sea



NOTES EXPLANATORY OF MAP.

In the list of stations the column headed W.T. gives the state of the weather at 9 a.m., b standing for blue sky; c, detached clouds; d, drizzling rain; f, fog; g, gloomy; h, hazy; m, misty; n, frosty; o, overcast; p, passing showers; r, rain; s, snow; t, thunder; u, threatening. The next column. M'x gives the maximum temperature for previous 24 hours. M'n the corresponding minimum temperature; r'n, the rain for the previous 24 hours. The symbols used in the map are explained on the margin. At each coast station the wind symbol is placed like a vane pointing to the direction from which the wind is coming. A clear circle with it means fine weather; a circle with bar, cloudy weather; and a black spot, raining. Next to this symbol are placed figures denoting the number of miles the wind is moving per hour; next, a symbol showing the state of the sea; and, lastly, figures denoting the shade temperature at 9 a.m. The barometer curve shows the state of barometers round the coast from Perth to Cooktown:—Pt, Perth; Ay, Albany; Ea, Eucla; CB, Cape Borda; A, Adelaide; Re, Robe; P, Portland; M, Melbourne; WP, Wilson's Promontory; Go, Gabo; E, Eden; Ma, Moruya; CG Jervis Bay; Wg, Wollongong; S, Sydney; N, Newcastle; PM, Port Macquarie; C, Clarence River; B, Brisbane; R, Rockhampton; Ct, Cooktown. Inland the state of barometer is given in figures at Albury, Deniliquin, Wentworth, Menindie, Bourke, and Alice Springs. The barometer curve enables one at a glance to trace the depressions beginning with Western Australia and passing along eastwards, northerly winds preceding them, and southerly following.

Western Australia.—Esperance Bay: Cloudy weather with light west wind and moderate sea. Barometer, 30·11; and temperature, 60°.

South Australia.—Generally fine inland, cloudy on and near the coast, with light S. to S.W. winds, fallen barometers, and moderate to rough sea. Sultry in places. Extremes of barometers and temperature on the coast:—Eucla, 29·99; Farina, 29·75; Adelaide, 74°; and M'Donnell Bay, 62°. In Northern Territory: Daly Waters, 29·76 and 88°; Port Darwin, 29·70 and 85°.

Victoria.—Generally cloudy and unsettled, with dense fog along the coast, light S. to W. winds, low barometers, and moderate sea. Extremes of barometers and temperature:—Portland, 29·74; Echuca, 29·54 and 80°; Hamilton, 63°.

Tasmania.—Cloudy and foggy on the north coast, fine in south parts, with light N.E. to S.E. winds, fallen barometers, and moderate sea. Extremes of barometers and temperature:—Falmouth, 29·72 and 67°; Hobart, 29·65; and Southport, 74°.

New South Wales.—Overcast and threatening throughout, with light rain falling in scattered places, light N. to E. winds, fallen barometers, and smooth sea. Rain has fallen generally during the last 48 hours, principally in the eastern division, and heaviest along the range. Murrurundi had 4·62 inches; Bodalla, 3·63; Orange, 2·51; Warren, 2·46; Tenterfield, 2·42; Bourke, 2·14; Gulgong, 1·98; and 10 other stations over an inch. Extra stations: Wilcannia, raining; Bega, on 22nd, rainfall 2·55 inches; Hill End, rainfall 0·58, and threatening; Lake Cudgellico, max. 76°, min. 73°, rainfall 0·52. For further particulars see map.

Queensland.—On the 21st a very remarkable storm prevailed over the colony. Brisbane reports the barometer down to 29·56 at 2 o'clock in the afternoon, nearly 4 inches of rain fell from 9 a.m. to 3 p.m., and a violent gale from E. and N.E. blew during the whole day. On the 22nd the rain still continued falling, causing heavy floods. At Gomans 18 inches and 33 points of rain fell on the 21st, making a total of 20·41 inches in 48 hours. The weather is still unsettled in the south. Rainfall on the 23rd at Brisbane measured 0·75 inch.

3 P.M. OBSERVATIONS.

Victoria.—Cape Otway, S.W., 23, overcast, misty, smooth sea temperature 62°; Melbourne, S.S.W., 13, overcast, temperature 70°; Cape Schanck, S.W., 23, overcast, foggy, moderate sea, temperature 70°; Wilson's Promontory, W., 8, foggy, sultry, moderate sea, temperature 76°; Lakes' Entrance, W., 5, overcast, foggy, temperature 77°.

New South Wales.—Menindie, N.E., overcast and like rain, temperature 85°; Wentworth, S.S.W., 14, cloudy and close, temperature 74°; Deniliquin, S.W., 14, like rain, temperature, 99°; Eden, N.E., 14, raining steadily, smooth sea, temperature 73°; Moruya, N.E., 28, sultry, smooth sea, temperature 80°; Cape St. George, N., 28, fine, moderate sea, temperature 74°; Sydney, N.E., 17, cloudy and gloomy, moderate sea, temperature 76°; Newcastle, N.E., 14, fint, smooth sea, temperature 78°; Port Macquarie, N.N.E., 28, fine, smooth sea, temperature 79°; Walgett, N.W., sultry, temperature 94°; Dubbo, N., 10, showery, temperature 83°; Forbes, calm, overcast and showery; Goulburn, N.E., dull, temperature 77°.

HEIGHT OF RIVERS ABOVE SUMMER LEVEL.

Macintyre: At Mungindi, low. Barwon: At Mogil Mogil, low; at Walgett, 3 feet 6 inches. Namoi: At Walgett, low. Culgoa: At Goodooga, 2 feet 10 inches. Darling: At Brewarrina, summer level; at Bourke, 2 feet; at Louth, 6 feet 6 inches; at Tilpa, 7 feet; at Wilcannia, 12 feet; at Menindie, 26 feet 3 inches; at Pooncarie, 23 feet 9 inches; at Wentworth, 12 feet 9 inches. Murrumbidgee: At Gundagai, 25 feet 9 inches; at Wagga, 13 feet 10 inches; at Hay, 1 foot; at Balranald, 3 feet 3 inches. Murray: At Albury, 1 foot; at Euston, 6 feet 5 inches.

ASTRONOMICAL MEMORANDA FOR JANUARY 25.

Sun rises at 5.16, sets 7.8; Moon, 6.16 a.m., 7.36 p.m.; Mercury, 4.34 a.m., 6.48 p.m.; Venus, 6.13 a.m., 7.55 p.m.; Mars, 6.53 a.m., 8.18 p.m.; Jupiter, 11.18 p.m., 12.28 p.m.; Saturn, 6.1 p.m., 3.59 a.m. Full moon, 10th; new moon, 24th.
High water at Fort Denison, January 25: 9.3 a.m. 9.22 p.m.

METEOROLOGICAL REPORTS AND MAP FOR JANUARY 25, 1887.

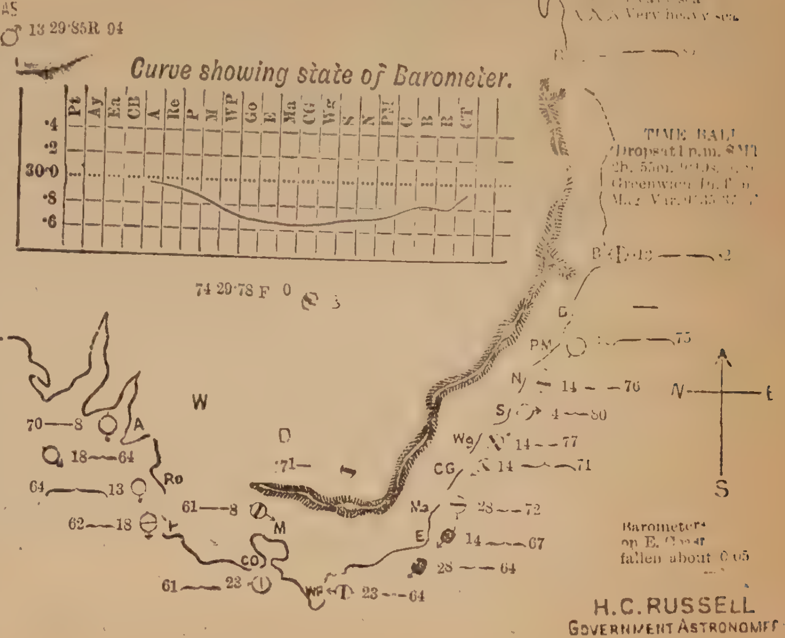
SYDNEY OBSERVATORY.
LATITUDE 33° 51' 41" S. LONGITUDE 10h. 4m.

Average Annual Rainfall for 28 years......

From January 1 to January 25 1887

Barometers corrected to 32° Fah. and Mean Sea Level

Stations	wt	Mx	mn	R'in
Albury	g	92	68	0·50
Armidale	b	80	66	0·35
Balranald	-	—	—	-
Bathurst	g	84	69	1·00
Bend'm'r	g	83	69	0·35
Bodalla	r	87	6	0·50
Bourke	c	92	72	1·08
Br'w'rrina	c	98	62	0·25
Bundarra	u	81	68	0
C'md'n H	o	83	75	0
C. St. Geo	c	80	69	0·05
Carcoar	g	79	71	0·55
Casino	-	—	—	-
Cassilis	o	86	74	0·15
Clarence	-	—	—	-
C'nd'b'lin	r	91	53	3·15
Cooma	r	8[illegible]	61	0·68
Coonab'n	g	86	71	0
Cowra	g	90	75	1·51
Deniliq'n	-	—	—	-
Dubbo	r	92	71	0·86
Eden	r	74	67	0·87
Euston	-	—	—	-
Forbes	r	—	64	1·70
Gl'n Inn's	o	75	64	0·28
Goulburn	b	83	66	0·53
Grafton	-	—	—	-
Gulgong	u	88	68	0·05
Gunned'h	b	89	73	0·13
Hay	-	—	—	-
Inverell	c	82	69	0
Kiandra	r	72	52	2·04
Lismore	-	—	—	-
Maitland	b	93	75	0
Marsdens	g	86	71	2·12
Menindie	-	—	—	-
Molong	o	88	68	1·21
M'r'ng'r'll	c	83	63	1·18
Moree	u	85	70	0
Moruya	g	83	69	0·61
Moss Vale	u	83	65	0·17
Mt. Hope	g	77	65	2·86
M. Vict'ria	b	83	65	0·12
Mudgee	g	92	58	0·43
M'r'mb'h	-	—	—	-
M'rr'r'ndi	c	82	75	0
Mus'lbr'k	b	95	70	0·07
Narrabri	c	89	74	0
Newcastle	c	82	73	0
Orange	c	83	67	0·97
Picton	u	85	70	0·06
P. M'q'rie	b	81	69	0
P. St'ph'n	g	83	[illegible]	0·15
Q'nbeyan	r	80	62	1·34
Quirindi	b	82	73	0·56
Singleton	b	90	76	0
SYDNEY	b	81	[illegible]	0·08
Tamw'rth	b	87	68	0·09
Taralga	u	85	[illegible]	0·87
Taree	b	88	74	0
T'nt'rfield	b	86	71	0
Wagga	r	86	[illegible]	1·50
Walcha	b	78	61	0·20
Walgett	g	96	73	1·01
Warrah	b	84	68	0·17
W'ntw'rth	-	—	—	-
W'll'ng'ng	c	81	73	0·09
Young	r	92	69	0·80



H.C. RUSSELL
GOVERNMENT ASTRONOMER.

NOTES EXPLANATORY OF MAP.

In the list of stations the column headed W.T. gives the state of the weather at 9 a.m., b standing for blue sky; c, detached clouds; d, drizzling rain; f, fog; g, gloomy; h, hazy; m, misty; n, frosty; o, overcast; p, passing showers; r, rain; s, snow; t, thunder; u, threatening. The next column, M'x gives the maximum temperature for previous 24 hours. M'n the corresponding minimum temperature; r'n, the rain for the previous 24 hours. The symbols used in the map are explained on the margin. At each coast station the wind symbol is placed like a vane pointing to the direction from which the wind is coming. A clear circle with it means fine weather; a circle with bar, cloudy weather; and a black spot, raining. Next to this symbol are placed figures denoting the number of miles the wind is moving per hour; next, a symbol showing the state of the sea; and, lastly, figures denoting the shade temperature at 9 a.m. The barometer curve shows the state of barometers round the coast from Perth to Cooktown:—Pt, Perth; Ay, Albany; Ea, Eucla; CB, Cape Borda; A, Adelaide; Ro, Robe; P, Portland; M, Melbourne; WP, Wilson's Promontory; Go, Gabo; E, Eden; Ma, Moruya; CG, Jervis Bay; Wg, Wollongong; S, Sydney; N, Newcastle; PM, Port Macquarie; C, Clarence River; B, Brisbane; R, Rockhampton; Ct, Cooktown. Inland the state of barometer is given in figures at Albury, Deniliquin, Wentworth, Menindie, Bourke, and Alice Springs. The barometer curve enables one at a glance to trace the depressions, beginning with Western Australia, and passing along eastwards; northerly winds preceding them, and southerly following.

Western Australia.—Generally fine, with light N.E. to S.E. and S. winds, fallen barometers, and smooth sea. Extremes of barometers and temperature: Esperance Bay, 30·01 and 61°; Cossack, 29·55; and Ashburton, 90°.

South Australia.—Generally fine and cool, with few scattered clouds on parts of the coast, light S. to S.E. winds, fallen barometers, and moderate sea. Extremes of barometers and temperature:—On and near the coast: Eucla, 29·99; Farina, 29·75; Adelaide, 70°; and M'Donnell Bay, 61°. In Northern Territory: Daly Waters, 29·79 and 91°; Port Darwin, 29·75 and 87°.

Victoria.—Fine inland, more or less cloudy on the coast, with light S. to W. winds, risen barometers, and smooth to moderate sea. Passing showers of misty rain at Melbourne; 0·01 inch rain fallen at places in S.E. parts; Omeo, 1·06 inch. Extremes of barometers and temperature:—Cape Otway, 29·90; Wilson's Promontory, 29·76; Horsham, 77°; and Hamilton, 70°.

Tasmania.—Generally cloudy and unsettled, with light variable winds, steady barometers, and moderate sea. Rainfall: Southport, 0·07; and Hobart, 0·02 inch. Extremes of barometers and temperature: Circular Heads, 29·75; Falmouth, 29·62; Low Heads, 68°; and Hobart, 60°.

New Zealand.—Showery in extreme north and south parts; fine at Wellington. Easterly winds on North Island, and barometers at 29·9; N.W. wind at Bluff, and barometer 30·0.

Queensland.—Generally cloudy and unsettled, with S.E. to E. winds in south, and calm in north parts. Heavy showers at Townsville, 1·24 inch fallen; Cooktown 0·15 inch, and Brisbane 0·01. Extremes of barometers and temperature: Cooktown, 29·88 and 90°; Rockhampton, 29·79 and 80°.

New South Wales.—Generally cloudy and gloomy, raining more or less heavily along the western slope of the range and in south coast districts, with light variable winds, chiefly N. to E., falling barometers, and smooth to moderate sea. Rain has fallen generally, heaviest in Lachlan, Murrumbidgee, and Murray upper watersheds. Condobolin had 3·15 inches, Mount Hope 2·86, Marsdens 2·12, Kiandra 2·04, Forbes 1·70, Cowra 1·50, and 8 other stations over an inch. Extra stations: Temora, on the 24th, 0·28 inch, 25th 1·56; Goodooga, 25th, 0·43; Bega, 0·89 inch, and still raining; Lake Cudgellico, 1·30 inch, max. 71°, min. 65°, and threatening. Hill End, 0·60 inch. For further particulars see map.

3 P.M. OBSERVATIONS.

Victoria.—Portland, S.S.W., 28, misty, smooth sea, temperature 64°; Cape Otway, line interrupted; Melbourne, S. 13, fine and clear, temperature 70°; Cape Schanck, S., 8, fine but heavy gloomy sky, slight sea, temperature 69°; Wilson's Promontory, W., 23, squally, moderate sea, temperature 68°; Lakes Entrance, W., 23, fine but cloudy, temperature 71°.

New South Wales.—Menindie, S.W., fine, warm, temperature 82°; Eden, S.W., 14, showery, moderate sea, temperature 67°; Cape St. George, S., 42, cloudy, smooth sea, temperature 72°; Sydney, E.N.E., 28, fine, smooth sea, temperature 80°; Walgett, stormy, showery, temperature 79°; Dubbo, S.W., 14, showery, temperature 79°; Goulburn, N.E., calm, dull, temperature 79°; Bateman's Bay, S.S.E., thick rain, smooth sea, temperature 66°.

HEIGHT OF RIVERS ABOVE SUMMER LEVEL.

Macintyre: At Mungindi, low. Barwon: At Mogil Mogil, low; at Walgett, 4 feet 5 inches. Namoi: At Walgett, low. Culgoa: At Goodooga, 2 feet. Darling: At Brewarrina, summer level; at Bourke, 3 feet 3 inches; at Louth, 6 feet 3 inches. Murrumbidgee: At Gundagai, 14 feet; at Wagga, 22 feet; at Hay, 10 inches. Murray: At Albury, 1 foot 7 inches.

ASTRONOMICAL MEMORANDA FOR JANUARY 26.

Sun rises at 5.17, sets at 7.7; Moon, 7.9 a.m., 8.13 p.m.; Mercury, 4.38 a.m., 6.50 p.m.; Venus, 6.15 a.m., 7.55 p.m.; Mars, 6.53 a.m., 8.16 p.m.; Jupiter, 11.14 p.m., 12.24 p.m.; Saturn, 5.57 p.m., 3.55 a.m. Full moon, 10th; new moon, 24th.
High water at Fort Denison, January 26: 9.39 a.m., 9.56 p.m.

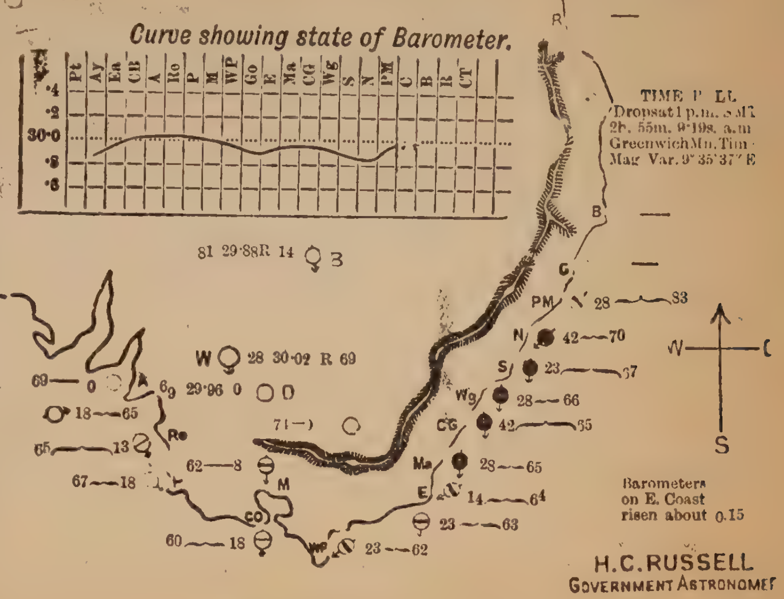
METEOROLOGICAL REPORTS AND MAP FOR JANUARY 26, 1887.

Stations	wt	Mx	Mn	R'in
Albury	b	92	66	0
Armidale	g	100	70	0·25
Balranald	b	101	52	0
Bathurst	g	80	66	0·03
Bend'm'r	g	85	69	0
Eodalla..	-	—	—	-
Bourke ..	b	92	72	0
Br'w rrina	-	—	—	-
Bundarra	c	83	72	0
C'nd'n H	c	84	76	0
C. St. Geo	r	72	63	2·02
Carcoar..	r	78	66	0·46
Casino ..	-	—	—	-
Cassilis ..	r	84	72	0·11
Clarence	-	—	—	-
C'nd'b'lin	b	94	55	0
Cooma ..	f	68	56	0·58
Coonab'n	r	86	76	0·12
Cowra ..	b	82	71	0·44
Deniliq'n	b	97	55	0
Dubbo ..	c	84	71	0·13
Eden	c	74	62	0·19
Euston ..	b	95	60	0
Forbes ..	b	—	62	0·29
Gl'n Inn's	g	83	62	1·85
Goulburn	g	83	61	0·67
Grafton ..	-	—	—	-
Gulgong	u	84	64	0·70
Gunned'h	c	88	75	0
Hay	b	92	50	0
Inverell..	c	85	71	0
Kiandra	b	72	47	0·47
Lismore	-	—	—	-
Maitland	c	96	72	0·41
Marsdens	b	83	71	0·06
Menindie	b	89	71	0
Molong ..	c	86	67	0·20
M'r'ng'r'll	b	80	67	0·04
Moree ..	b	89	74	0
Moruya..	r	75	64	0·61
Moss Vale	r	83	61	0·97
Mt. Hope	b	92	68	0
M. Vict'ria	r	82	58	0·47
Mudgee	g	84	64	0·27
M'rr'mb'h	b	80	65	1·32
M'rr'r'ndi	c	85	72	1·38
Mus'lbr'k	u	99	67	0·13
Narrabri	b	93	74	0·07
Newcastle	r	82	70	0·93
Orange ..	g	79	63	0·14
Picton ..	u	90	65	1·40
P. M'q'rie	b	84	70	0
P. St'ph'n	c	84	66	0·05
Q'nbeyan	c	74	63	0·90
Quirindi	g	85	74	0·25
Singleton	r	82	61	0·33
SYDNEY ..	r	84	67	1·37
Tamw'rth	b	91	73	0
Taralga ..	u	80	58	0·70
Taree ..	c	92	75	0
T'nt'rfield	r	87	69	0·31
Wagga ..	b	90	65	0
Walcha ..	g	80	65	0·64
Walgett..	-	—	—	-
Warrah ..	g	88	64	0
W'ntw'rth	b	93	62	0
W'll'ng'ng	r	84	65	1·51
Young ..	b	81	62	0·08

SYDNEY OBSERVATORY.
LATITUDE 33° 51' 41" S LONGITUDE 10h. 4m 50·81s. E

Average Annual Rainfall for 28 years...... ... 49·489
Total Rainfall for 1886 39·426
From January 1 to January 26 1887 4·812
Barometers corrected to 32° Fah. and Mean Sea Level

Fine. wind N Cloudy in E. T. storm wind S. Rain wind W
If it is CALM, the symbol is used without the arrow
Smooth sea.
Heavy sea
Very heavy sea.



TIME BALL
Dropsat 1 p.m. S.M.T.
2h. 55m. 9·19s. a.m
Greenwich Mn. Time
Mag Var. 9° 35' 37" E

Barometers on E. Coast risen about 0.15

H. C. RUSSELL
GOVERNMENT ASTRONOMER

NOTES EXPLANATORY OF MAP.

In the list of stations the column headed W.T. gives the state of the weather at 9 a.m., b standing for blue sky; c, detached clouds; d, drizzling rain; f, fog; g, gloomy; h, hazy; m, misty; n, frosty; o, overcast; p, passing showers; r, rain; s, snow; t, thunder; u, threatening. The next column. M'x gives the maximum temperature for previous 24 hours. M'n the corresponding minimum temperature; r'n. the rain for the previous 24 hours. The symbols used in the map are explained on the margin. At each coast station the wind symbol is placed like a vane pointing to the direction from which the wind is coming. A clear circle with it means fine weather; a circle with bar, cloudy weather; and a black spot, raining. Next to this symbol are placed figures denoting the number of miles the wind is moving per hour; next, a symbol showing the state of the sea; and, lastly, figures denoting the shade temperature at 9 a.m. The barometer curve shows the state of barometers round the coast from Perth to Cooktown:—Pt, Perth; Ay, Albany; Ea, Eucla; CB, Cape Borda; A, Adelaide; Re, Robe; P, Portland; M, Melbourne; W P, Wilson's Promontory; Go, Gabo; E, Eden; Ma, Moruya; C G Jervis Bay; Wg, Wollongong; S, Sydney; N, Newcastle; P M, Port Macquarie; C, Clarence River; B, Brisbane; R, Rockhampton; Ct, Cooktown. Inland the state of barometer is given in figures at Albury, Deniliquin, Wentworth, Menindie, Bourke, and Alice Springs. The barometer curve enables one at a glance to trace the depressions, beginning with Western Australia, and passing along eastwards; northerly winds preceding them, and southerly following.

Western Australia.—Generally fine and warm, with light S.E. to S.W. winds, fallen barometers, and smooth to moderate sea. Extremes of barometers and temperature: Perth, 29·97; Cossack, 29·65; Ashburton, 89°; and Esperance Bay, 66°.

South Australia.—Generally fine and cool, with light scattered clouds on and near the coast, light S. to S.E. winds, fallen barometers, and moderate sea. Rainfall: Alice Springs, 0·38; and Yam Creek, 0·40 inch. Extremes of barometers and temperature:—On the coast: Cape Borda, 30·03; Streaky Bay, 29·94; Eucla, 71°; and M'Donnell Bay, 62°. In Northern Territory: Daly Waters, 29·84 and 84°; Port Darwin, 29·75 and 88°.

Victoria.—Generally cloudy and unsettled, with light southerly winds, rising barometers, and moderate sea. Foggy at Omeo; squally at Wilson's Promontory. Extremes of barometers and temperature:—Cape Otway, 30·05; Wilson's Promontory, 29·95; Horsham, 75°; Omeo and Hamilton, 59°.

Tasmania.—Generally fine but cloudy, with light S.E. winds, rising barometers, and moderate sea. Extremes of barometers and temperature: Hobart, 29·94 and 10°; Southport, 29·85 and 66°.

New Zealand.—Generally fine.

New South Wales.—Generally cloudy and unsettled, fine at places west of the range, light rain falling in south coast districts, light easterly and southerly winds, rising barometers, and smooth to moderate sea. Rain has fallen generally, heaviest in south coast districts and at places along the range. Cape St. George reports 2·02; Glen Innes, 1·85; Camden, 1·70; Wollongong, 1·51; Picton, 1·50; Murrurundi, 1·38; Sydney, 1·37; Murrumburrah, 1·22; and over the rest of the colony quantities below an inch. Extra stations: Nowra, S., light rain, temperature 81°, rain on Sunday 0·56, to-day 1·42; Gabo Island, 0·76 inch rain fallen; Bega, 0·44 inch, and still drizzling; Hill End, 0·11 inch, and threatening. Lake Cudgellico, max. 88°, min. 67°, fine, clear, and warm. For further particulars see map.

3 P.M. OBSERVATIONS.

Victoria.—Portland, S.E., 30, cloudy, smooth sea, temperature 66°; Cape Otway, S. 18, fine, smooth sea, temperature 65°; Melbourne, S.S.W., 12, cloudy, temperature 68°; Cape Schanck, rain 0·57, temperature 68°; Wilson's Promontory, S.W., 24, cloudy, moderate sea, temperature 66°; Lakes Entrance, S., 12, cloudy, temperature 70°.

New South Wales.—Sydney, S., 20, showery, temperature 67°; Newcastle, S.W., 40, showery, rain 0·93, temperature 70°.

Queensland.—Brisbane, E., 12, clouds coming from S.S.W., temperature 81°.

HEIGHT OF RIVERS ABOVE SUMMER LEVEL.

Macintyre: At Mungindi, low. Barwon: At Mogil Mogil, low; at Walgett, 5 feet 6 inches. Namoi: At Walgett, low. Culgoa: At Goodooga, 2 feet. Darling: At Brewarrina, summer level; at Bourke, 3 feet 6 inches; at Louth, 6 feet; at Tilpa, 6 feet 6 inches; at Wilcannia, 11 feet 8 inches; at Menindie, 26 feet; at Pooncarie, 23 feet 8 inches; at Wentworth, 12 feet. Murrumbidgee: At Gundagai, 16 feet 6 inches; at Wagga, 26 feet 6 inches; at Hay, 9 inches; at Balranald, 3 feet 6 inches. Murray: At Albury, 1 foot 10 inches; at Euston, 4 feet 4 inches.

ASTRONOMICAL MEMORANDA FOR JANUARY 27.

Sun rises at 5.18, sets at 7.7; Moon, 8.3 a.m., 8.47 p.m.; Mercury, 4.42 a.m., 6.52 p.m.; Venus, 6.17 a.m., 7.55 p.m; Mars, 6.53 a.m., 8.15 p.m.; Jupiter, 11.10 p.m., 12.20 p.m.; Saturn, 5.53 p.m., 3.51 a.m. Full moon, 10th; new moon, 24th. High water at Fort Denison: 10.13 a.m., 10.29 p.m.

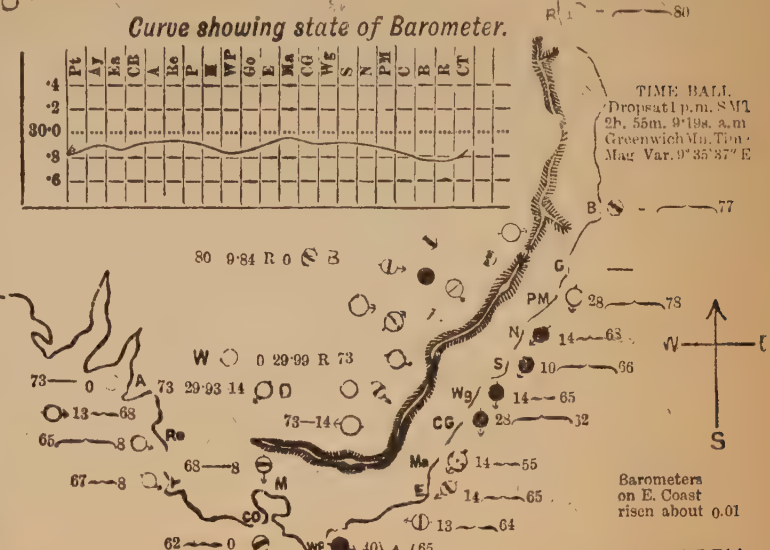
METEOROLOGICAL REPORTS AND MAP FOR JANUARY 27, 1887.

Stations	wt	Mx	Mn	R'in
Albury	b	95	64	0
Armidale	c	84	62	0
Balranald	b	103	61	0
Bathurst	c	75	60	0·66
Bend'm'r	u	82	64	0·75
Bodalla ..	g	80	62	0·06
Bourke ..	c	96	74	0
Br'w rrina	–	—	—	–
Bundarra	g	80	67	1·12
C'md'n H	c	84	69	0
C.St.Geo	r	70	61	0·43
Carcoar ..	r	75	66	0·45
Casino ..	–	—	—	–
Cassilis ..	r	74	66	1·57
Clarence	–	—	—	–
C'nd'b'lin	c	95	54	0
Cooma ..	o	84	54	0
Coonab'n	u	77	63	1·17
Cowra ..	b	86	68	0
Deniliq'n	b	98	53	0
Dubbo ..	b	82	65	0·10
Eden	o	72	60	0
Euston ..	b	97	59	0
Forbes ..	b	—	61	0
Gl'n Inn's	g	74	61	0·18
Goulburn	r	83	56	0·12
Grafton ..	–	—	—	–
Gulgong	u	75	58	0
Gunned'h	o	81	67	2·90
Hay	b	97	59	0
Inverell ..	u	88	68	1·24
Kiandra	b	77	48	0
Lismore	–	—	—	–
Maitland	u	70	65	0·64
Marsdens	b	90	70	0
Menindie	b	89	70	0
Molong ..	c	83	62	0·64
M'r'ng'r'll	b	96	66	0
Moree ..	u	96	68	3·30
Moruya ..	g	70	63	0·03
Moss Vale	r	65	58	0·33
Mt. Hope	b	92	71	0
M. Vict'ria	r	67	49	0·39
Mudgee	u	79	58	0·14
M'rr'mb'h	b	78	59	0
M'rr'r'ndi	r	75	65	1·85
Mus'lbr'k	u	78	62	1·22
Narrabri	r	96	69	1·02
Newcastle	r	77	66	2·57
Orange ..	c	80	57	0·03
Picton .	u	70	65	0·42
P. M'q'rie	b	89	67	0
P. St'ph'n	c	72	63	0·57
Q'nbeyan	g	75	62	0
Quirindi	r	82	68	1·22
Singleton	u	76	60	1·14
SYDNEY ..	r	70	65	1·34
Tamw'rth	o	72	66	3·07
Taralga ..	r	69	47	1·00
Taree ..	g	84	79	0·21
T'nt'rfield	b	87	69	0·42
Wagga ..	b	96	64	0
Walcha ..	g	78	55	0·07
Walgett ..	–	—	—	–
Warrah ..	u	80	52	2·05
W'ntw'rth	b	94	63	0
W'll'ng'ng	r	73	64	0·39
Young ..	b	91	61	0

SYDNEY OBSERVATORY.
LATITUDE 33° 51' 41" S LONGITUDE 10h. 4m 50·81s. E

Average Annual Rainfall for 28 years...... ... 49·489
Total Rainfall for 1886 39·426
From January 1 to January 27 1887 6·186
Barometers corrected to 32° Fah. and Mean Sea Level

Fine wind N. Cloudy in E. T. storm wind S. Rain. wind W.
If it is CALM, the symbol is used without the arrow
Smooth sea
Heavy sea
Very heavy sea.



H.C. RUSSELL
GOVERNMENT ASTRONOMER

NOTES EXPLANATORY OF MAP.

In the list of stations the column headed W.T. gives the state of the weather at 9 a.m., b standing for blue sky; c, detached clouds; d, drizzling rain; f, fog; g, gloomy; h, hazy; m, misty; n, frosty; o, overcast; p, passing showers; r, rain; s, snow; t, thunder; u, threatening. The next column. M'x gives the maximum temperature for previous 24 hours. M'n the corresponding minimum temperature; r'n, the rain for the previous 24 hours. The symbols used in the map are explained on the margin. At each coast station the wind symbol is placed like a vane pointing to the direction from which the wind is coming. A clear circle with it means fine weather; a circle with bar, cloudy weather; and a black spot, raining. Next to this symbol are placed figures denoting the number of miles the wind is moving per hour; next, a symbol showing the state of the sea; and, lastly, figures denoting the shade temperature at 9 a.m. The barometer curve shows the state of barometers round the coast from Perth to Cooktown:—Pt, Perth; Ay, Albany; Ea, Eucla; CB, Cape Borda; A, Adelaide; Ro, Robe; P, Portland; M, Melbourne; W P, Wilson's Promontory; Go, Gabo; E, Eden; Ma, Moruya; C G Jervis Bay; Wg, Wollongong; S, Sydney; N, Newcastle; P M, Port Macquarie; C, Clarence River; B, Brisbane; R, Rockhampton; Ct, Cooktown. Inland the state of barometer is given in figures at Albury, Deniliquin, Wentworth, Menindie, Bourke, and Alice Springs. The barometer curve enables one at a glance to trace the depressions, beginning with Western Australia, and passing along eastwards; northerly winds preceding them, and southerly following.

Western Australia.—Fine along the east coast, cloudy and gloomy in south parts, with light S.E. to S.W. winds, fallen barometers, and moderate sea. Extremes of barometers and temperature: Albany, 29·90; Cossack, 29·71; Ashburton, 84·; and Perth, 65·.

South Australia.—Generally fine and pleasant, with few scattered clouds on and near the coast, fallen barometers, light S. to S.E. winds and calms in places, and smooth sea. Extremes of barometers and temperature on and near the coast: Cape Borda, 29·93; Eucla, 29·83 and 72·; and M'Donnell Bay, 64·. In Northern Territory: Daly Waters, 29·77 and 77·; Port Darwin, 29·77 and 90·.

Victoria.—Fine inland, more or less cloudy on the coast, with light S. to E. winds and calms, fallen barometers, and moderate sea. Light misty rain falling at Wilson's Promontory. Extremes of barometers and temperature:—Cape Otway, 29·96 and 62·; Echuca, 29·80; Horsham, 76·.

Tasmania.—Generally overcast, with showers of misty rain falling in places, light E. to S. winds, rising barometers, and moderate sea. Rainfall: Falmouth, 0·15; and Hobart, 0·09 inch. Extremes of barometers and temperature: Hobart, 30·05 and 56·; Low Heads, 30·1 and 69·.

New Zealand.—Passing showers from N.E. At Bluff, barometer at 29·9 Unsettled, with fresh N.W. to S.W. winds, and barometers at 29·8· in south parts.

Queensland.—Generally unsettled and calm, with rising barometers and smooth sea; stormy at Normanton, 2·01 inch rain fallen; 0·17 inch at Rockhampton. Extremes of barometers and temperature: Cooktown, 29·86 and 88·; Normanton, 29·66; and Brisbane, 77·.

New South Wales.—Generally overcast and gloomy; fine in west part; raining on the Namoi and in coast districts between the Manning and Shoalhaven rivers. Rain has fallen in the eastern division generally, heaviest in N.E. parts of the Darling watershed. Moree reports 2·30 inches, Tamworth 3·07, Gunnedah 2·90, Newcastle 2·57, Worral 2·05, Cassilis 1·57, Murrurundi 1·85, and 10 other stations in the same districts above an inch. Winds are light and variable (chiefly from N.E. to S.E. and S.); barometers have risen slightly, and the sea is smooth. Extra stations: Camden, showery and 0·50 inch fallen; Hill End, 0·75 inch rain, and threatening. Lake Cudgellico, max. 82·, min. 70·, fine, clear, and hot; Nowra, max. 69·, min. 60·, 0·45 inch rain and cloudy. (For further particulars see map.) Baradine, threatening rain, 3·25 inches fell from 9.30 a.m. to 5.30 p.m. to-day.

3 P.M. OBSERVATIONS.

Victoria.—Portland, S., 24, cloudy, smooth sea, temperature 65·; Cape Otway, S.S.W., 12, cloudy, smooth sea, temperature 70·; Melbourne, S.S.W., 12, fine.temperature 74·; Cape Schanck, S., 6, cloudy, smooth sea, temperature 69·; Wilson's Promontory, E.N.E., 36, misty, squally, rough sea, temperature 66·; Lakes Entrance, E., 30, cloudy, temperature 74·.

New South Wales.—Wentworth, N.W., 14, fine, temperature 77·; Deniliquin, S.W., 14, fine, temperature 96·; Eden, S.E., 28, overcast, misty rain, moderate sea, temperature 67·; Cape St. George, S., 42, cloudy, smooth sea, temperature 67·; Sydney, S.S.E., 15, overcast, moderate sea, temperature 68·; Newcastle, S., 14, dull, smooth sea, temperature 71·; Port Macquarie, S.S.E., 28, cloudy, smooth sea, temperature 85·; Dubbo, E., 14, fine but cloudy, temperature 77·; Goulburn, E.S.E., dull, temperature 70·.

HEIGHT OF RIVERS ABOVE SUMMER LEVEL.

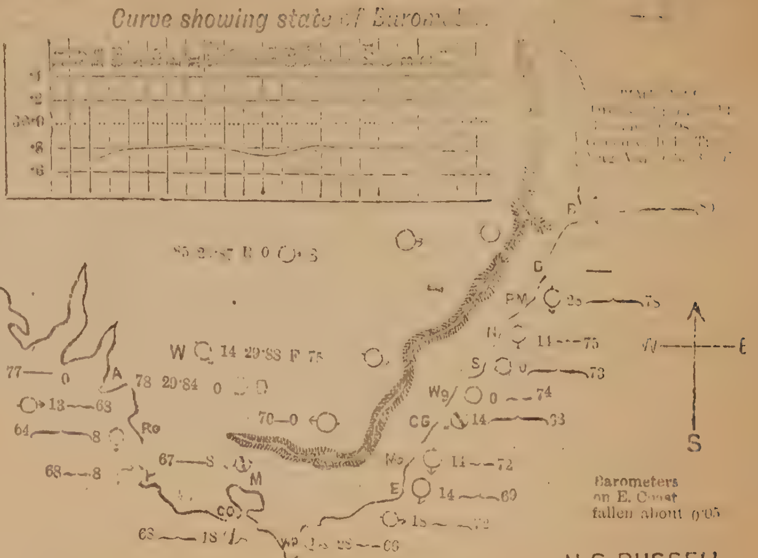
Macintyre: At Mungindi, 4 feet. Barwon: At Mogil Mogil, 3 feet; at Walgett, 6 feet. Namoi: At Walgett, low. Culgoa: At Goodooga, 2 feet 4 inches. Darling: At Brewarrina, summer level; at Bourke, 3 feet 6 inches; at Louth, 5 feet; 9 inches; at Wilcannia, 11 feet; at Pooncarie, 23 feet 8 inches; at Wentworth, 11 feet 11 inches. Murrumbidgee: At Gundagai, 23 feet 6 inches; at Wagga, 23 feet 6 inches; at Hay, 9 feet; at Balranald, 3 feet 2 inches. Murray: At Albury, 1 foot 5 inches; at Euston, 4 feet 6 inches.

ASTRONOMICAL MEMORANDA FOR JANUARY 28.

Sun rises at 5.19, sets at 7.6; Moon, 9.48 a.m., 9.52 p.m.; Mercury, 4.45 a.m., 6.55 p.m.; Venus, 6.19 a.m., 7.55 p.m.; Mars, 6.53 a.m., 8.13 p.m.; Jupiter, 11.7 p.m., 12.17 p.m.; Saturn, 5.48 p.m., 3.46 a.m. Full moon, 10th; new moon, 24th.
High water at Fort Denison: 10.47 a.m., 11.5 p.m.

METEOROLOG[illegible] 28, 18[illegible]

Stations	W.T.	M'x	M'n	R'in
Albury	b	93	61	0
Armidale	[illegible]	–	–	–
[illegible]	[illegible]	[illegible]	[illegible]	0
Bathurst	u	[illegible]	[illegible]	[illegible]
Bend'm'r	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Bourke	[illegible]	[illegible]	73	0
Br'w'rrina	[illegible]	[illegible]	[illegible]	0
Bundarra	[illegible]	[illegible]	[illegible]	[illegible]
C'md'n H	[illegible]	[illegible]	[illegible]	[illegible]
C. St. Ge.	c	[illegible]	[illegible]	[illegible]
Carcoar	[illegible]	[illegible]	[illegible]	0
Casino ..	–	–	–	–
Cassilis ..	c	7[illegible]	67	0
Clarence	–	–	–	–
C'nd'b'lin	b	[illegible]	[illegible]	[illegible]
Cooma ..	[illegible]	[illegible]	57	0
Coonab'n	b	[illegible]	63	0
Cowra ..	b	[illegible]	67	0
Deniliq'n	b	100	55	0
Dubbo ..	[illegible]	[illegible]	62	0
Eden	b	79	60	0·03
Euston ..	b	101	51	0
Forbes ..	b	—	65	0
Gl'n Inn's	b	80	61	0
Goulburn	g	70	57	0·36
Grafton ..	–	—	—	–
Gulgong	b	79	59	0
Gunned'h	b	85	69	0
Hay	b	99	80	0
Inverell ..	u	77	68	0
Kiandra	b	87	49	0·24
Lismore	–	—	—	–
Maitland	g	79	66	0
Marsdens	b	89	73	0
Menindie	b	99	72	0
Molong ..	b	79	59	0
M'r'ng'r'll	b	84	68	0
Moree ..	g	95	67	0
Moruya ..	b	82	64	0·20
Moss Vale	–	—	—	–
Mt. Hope	b	99	70	0
M. Vict'ria	c	66	56	0·10
Mudgee	b	80	60	0
M'r'mb'h	b	85	64	0
M'rr'r'ndi	b	76	67	0
Mus'lbr'k	c	82	63	0
Narrabri	b	92	66	0
Newcastle	b	80	68	0·05
Orange ..	c	76	55	0·17
Picton ..	f	72	63	0·05
P. M'q'rie	b	83	64	0
P. St'ph'n	g	85	57	0·52
Q'nbeyan	b	75	63	0
Quirindi	b	84	61	0
Singleton	c	73	61	0
SYDNEY ..	b	75	65	0·11
Tamw'rth	b	82	62	0
Taralga ..	u	66	48	0·20
Taree ..	b	87	68	0·02
T'nt'rfield	g	87	74	0
Wagga ..	b	94	66	0
Walcha ..	b	80	56	0
Walgett ..	b	86	67	0
Warrah ..	b	84	50	0
W'ntw'rth	b	99	64	0
W'll'ng'ng	b	78	66	0·03
Young ..	b	89	61	0



H.C. RUSSELL
GOVERNMENT ASTRONOMER

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In the list of stations the column headed W.T. gives the state of the weather at 9 a.m., b standing for blue sky; c, detached clouds; d, drizzling rain; f, fog; g, gloomy; h, hazy; m, misty; n, frosty; o, overcast; p, passing showers; r, rain; s, snow; t, thunder; u, threatening. The next column. M'x gives the maximum temperature for previous 24 hours. M'n the corresponding minimum temperature; r'n, the rain for the previous 24 hours. The symbols used in the map are explained on the margin. At each coast station the wind symbol is placed like a vane pointing to the direction from which the wind is coming. A clear circle with it means fine weather; a circle with bar, cloudy weather; and a black spot, raining. Next to this symbol are placed figures denoting the number of miles the wind is moving per hour; next, a symbol showing the state of the sea; and, lastly, figures denoting the shade temperature at 9 a.m. The barometer curve shows the state of barometers round the coast from Perth to Cooktown:—Pt, Perth; Ay, Albany; Ea, Eucla; CB, Cape Borda; A, Adelaide; Ro, Robe; P, Portland; M, Melbourne; W P, Wilson's Promontory; Go, Gabo; E, Eden; Ma, Moruya; C G Jervis Bay; Wg, Wollongong; S, Sydney; N, Newcastle; P M, Port Macquarie; C, Clarence River; B, Brisbane; R, Rockhampton; Ct, Cooktown. Inland the state of barometer is given in figures at Albury, Deniliquin, Wentworth, Menindie, Bourke, and Alice Springs. The barometer curve enables one at a glance to trace the depressions, beginning with Western Australia, and passing along eastwards; northerly winds preceding them, and southerly following.

South Australia.—Generally fine and warm, with light scattered clouds in parts, light S.E. to N.E. winds, fallen barometers, and smooth sea. Rainfall: Port Darwin, 0·85, and Yam Creek, 0·22 inch. Extremes of barometers and temperature at and near the coast: M'Donnell Bay, 29·82 and 65·; Streaky Bay, 29·70; and Adelaide, 77·. In Northern Territory: Daly Waters, 29·72 and 89·; Port Darwin, 29·65 and 85·.

Victoria.—Generally fine, cloudy in S.E. parts, with light easterly winds, steady barometers, and moderate sea. Rainfall: 0·27 inch fell during thunderstorm in night at Lake Entrance. Extremes of barometers and temperature: Cape Otway, 29·89; Ballarat, 29·77; Horsham, 79·, and Hamilton, 62·.

Tasmania.—Generally fine, but cloudy, with light easterly winds, fallen barometers, and moderate sea. Rough sea off Circular Head. Extremes of barometers and temperature: Southpore, 29.92 and 66·; Circular Heads, 29·88; and Hobart, 69·.

New Zealand.—Gloomy in extreme north, with N.E. wind, and barometers at 29.9; light rain falling at Wellington, with south wind; fine at Bluff, with S.E. wind, and barometer at 30·0.

New South Wales.—Generally fine, clear, and warm, with light variable winds and calms, fallen barometers, and smooth sea. Light rain has fallen at places in the eastern division, heaviest near the coast. Extremes of barometers and temperature at 9 a.m.: Wentworth 29·88, Forbes 29·72, Bourke and Hay 85·, Cooma and Mount Victoria 62·. Reading of the standard barometer at Sydney, corrected to 32· Fahr. and mean sea level at 9 a.m., 29·817. Extra stations: Bega, 0·34 inch rain fell yesterday and it is still drizzling; Camden, 0·15 inch rain, weather now fine and warm; Lawrence, from 10 a.m., 26th to 9 a.m., 27th, 2·50 inches rain fell; Lake Cudgellico, max. 100·, min. 68·, very fine and calm. (For further particulars see map.)

Queensland.—Cloudy and unsettled, with light S.E. and E. winds, risen barometers, and smooth sea. Rainfall: Cape Moreton 0·58, Roma 0·41, and Brisbane 0·02 inch. Extremes of barometers and temperature: Cooktown, 29·86 and 92·; Normanton, 29·75; and Cape Moreton, 76·.

3 P.M. OBSERVATIONS.

Victoria.—Portland, S.E., 24, fine, smooth sea, temperature 74·; Cape Otway, E.S.E., 30, misty, smooth sea, temperature 70·; Melbourne, S., 18, fine, barometers falling, temperature 74·; Cape Schanck, E., 12, misty, smooth sea, temperature 70·; Wilson's Promontory, E., 30, squally, moderate sea, temperature 68·; Lakes Entrance, E., 24, cloudy, temperature 75·.

New South Wales.—Menindie, calm, fine, temperature 90·; Deniliquin, S.W., 14, fine and clear, temperature 91·; Eden, E., 14, overcast, smooth sea, temperature 73·; Moruya, S., 28, fine, smooth sea, temperature 80·; Cape St. George, S.E., 14, fine, smooth sea, temperature 74·; Sydney, S.E., 10, fine, threatening to N.W., smooth sea, temperature 74·; Newcastle, S.E., 14, fine, smooth sea, temperature 75·; Port Macquarie, S.S.E., 28, fine, smooth sea, temperature 84·; Walgett, E., 14, showery, temperature 83·; Dubbo, calm, fine but cloudy, temperature 80·; Goulburn, E., 14, fine, temperature 72·.

Brisbane.—3 p.m., wind E.N.E., 18, cloudy, temperature 86·.

HEIGHT OF RIVERS ABOVE SUMMER LEVEL.

Macintyre: At Mungindi, 4 feet. Barwon: At Mogil Mogil, 4 feet; at Walgett, 7 feet. Namoi: At Walgett, 4 feet. Culgoa: At Goodooga, 2 feet 3 inches. Darling: At Brewarrina, 1 foot; at Bourke, 2 feet; at Louth, 5 feet 9 inches; at Menindie, 25 feet; at Pooncarie, 23 feet 7 inches; at Wentworth, 11 feet 10 inches. Murrumbidgee: At Gundagai, 14 feet; at Wagga, 24 feet; at Hay, 5 inches; at Balranald, 3 feet. Murray: At Albury, 3 feet; at Euston, 4 feet 4 inches.

ASTRONOMICAL MEMORANDA FOR JANUARY 29.

Sun rises at 5.20, sets at 7.6; Moon, 10.41 a.m., 10.23 p.m.; Mercury, 4.49 a.m., 6.57 p.m.; Venus, 6.21 a.m., 7.54 p.m.; Mars, 6.53 a.m., 8.11 p.m.; Jupiter, 11.4 p.m., 12.14 p.m.; Saturn, 5.44 p.m., 3.42 a.m. Full moon, 10th; new moon, 24th.

High water at Fort Denison: 11.20 a.m., 11.35 p.m.

METEOROLOGICAL REPORTS AND MAP FOR JANUARY 29, 1887.

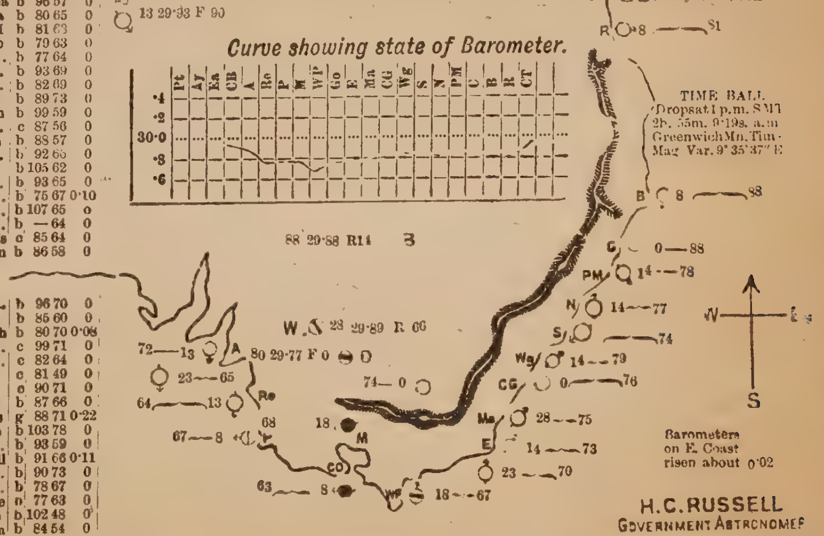
Stations	wt	Mx	Mn	R'in
Albury	b	95	61	0
Armidale	b	85	62	0·24
Balranald	g	112	63	0
Bathurst	b	82	57	0·12
Bend'm'r	b	83	66	0·02
Bodalla	b	87	64	0
Bourke	b	99	74	0
Br'w rrina	b	96	57	0
Bundarra	b	80	65	0
C'md'n H	b	81	63	0
C.St.Geo	b	79	63	0
Carcoar	b	77	64	0
Casino	b	93	69	0
Cassilis	b	82	69	0
Clarence	b	89	73	0
C'nd'b'lin	b	99	59	0
Cooma	c	87	56	0
Coonab'n	b	88	57	0
Cowra	b	92	66	0
Deniliq'n	b	105	62	0
Dubbo	b	93	65	0
Eden	b	75	67	0·10
Euston	b	107	65	0
Forbes	b	—	64	0
Gl'n Inn's	c	85	64	0
Goulburn	b	86	58	0
Grafton	b	96	70	0
Gulgong	b	85	60	0
Gunned'h	b	80	70	0·08
Hay	c	99	71	0
Inverell	c	82	64	0
Kiandra	c	81	49	0
Lismore	c	90	71	0
Maitland	b	87	66	0
Marsdens	g	88	71	0·22
Menindie	b	103	78	0
Molong	b	93	59	0
M'r'ng'r'll	b	91	66	0·11
Moree	b	90	73	0
Moruya	b	78	67	0
Moss Vale	n	77	63	0
Mt. Hope	b	102	48	0
M.Vict'ria	b	84	54	0
Mudgee	g	83	58	0
M'rr'mb'h	b	86	65	0
M'rr'r'ndi	t	81	65	0
Mus'lbr'k	u	89	62	0·12
Narrabri	b	95	67	0
Newcastle	b	79	69	0
Orange	b	79	55	0
Picton	c	82	63	0·06
P. M'q'rie	b	80	66	0
P. St'ph'n	-	—	—	-
Q'nbeyan	b	80	67	0
Quirindi	b	87	67	0
Singleton	g	80	66	0·10
Sydney	b	79	68	0
Tamw'rth	b	87	65	0·09
Taralga	b	71	60	0
Taree	b	90	61	0·01
T'nt'rfield	b	89	71	1·76
Wagga	b	98	67	0
Walcha	b	77	58	0
Walgett	b	98	67	0
Warrah	b	92	51	0
W'ntw'rth	c	103	66	0
W'll'ng'ng	b	82	66	0
Young	b	98	61	0

SYDNEY OBSERVATORY.
LATITUDE 33° 51' 41" S LONGITUDE 10h. 4m 50·81s. E

Average Annual Rainfall for 28 years...... ... 49·489
Total Rainfall for 1886 39·426
From January 1 to January 29 1887 6·794
Barometers corrected to 32° Fah. and Mean Sea Level

Fine, wind N. Cloudy in E. T. storm, wind S. Rain, wind W.
If it is CALM, the symbol is used without the arrow
Smooth sea.
Heavy sea
Very heavy sea

TIME BALL.
Dropsat 1 p.m. SMT
2h. 55m. 9·19s. a.m
Greenwich Mn. Tim.
Mag Var. 9° 35' 37" E



Barometers on E. Coast risen about 0·02

H.C. RUSSELL
GOVERNMENT ASTRONOMER

NOTES EXPLANATORY OF MAP.

In the list of stations the column headed W.T. gives the state of the weather at 9 a.m., b standing for blue sky; c, detached clouds; d, drizzling rain; f, fog; g. gloomy; h, hazy; m, misty; n, frosty; o, overcast; p. passing showers; r. rain; s, snow; t, thunder; u, threatening. The next column. M'x gives the maximum temperature for previous 24 hours. M'n the corresponding minimum temperature; r'n, the rain for the previous 24 hours. The symbols used in the map are explained on the margin. At each coast station the wind symbol is placed like a vane pointing to the direction from which the wind is coming. A clear circle with it means fine weather; a circle with bar, cloudy weather; and a black spot, raining. Next to this symbol are placed figures denoting the number of miles the wind is moving per hour; next, a symbol showing the state of the sea; and, lastly, figures denoting the shade temperature at 9 a.m. The barometer curve shows the state of barometers round the coast from Perth to Cooktown:—Pt, Perth; Ay, Albany; Ea, Eucla; CB, Cape Borda; A, Adelaide; Re, Robe; P, Portland; M, Melbourne; WP, Wilson's Promontory; Go, Gabo; E, Eden; Ma, Moruya; CG Jervis Bay; Wg, Wollongong; S, Sydney; N, Newcastle; PM, Port Macquarie; C, Clarence River; B, Brisbane; R, Rockhampton; Ct, Cooktown. Inland the state of barometer is given in figures at Albury, Deniliquin, Wentworth, Menindie, Bourke, and Alice Springs. The barometer curve enables one at a glance to trace the depressions, beginning with Western Australia, and passing along eastwards; northerly winds preceding them, and southerly following.

South Australia.—Generally more or less cloudy and cool, with light S. to S.E. winds, risen barometers, and moderate sea. Light rain has fallen in parts north of Burra, but partial. Rainfall: Port Darwin 0·40; Farina, 0·08; and Robe, 0·07. Extremes of barometers and temperature on and near the coast: Eucla, 29·99; Farina, 29·84; Adelaide, 72°; and M'Donnell Bay, 64°. In Northern Territory: Daly Waters, 29·70 and 89°; Port Darwin, 29·63 and 85°.

Victoria.—Generally overcast and threatening, raining in S.W. parts, with light N. to W. winds, fallen barometers, and moderate sea. Rainfall: Horsham, 0·07; Cape Otway, 0·05; Portland, 0·02; and Melbourne, 0·01 inch. Extremes of barometers and temperature: Melbourne, 29·78; Wilson's Promontory, 29·65; Horsham, 76°; and Ballarat, 60°.

Tasmania.—Generally fine, but cloudy, with light N. to E. winds, fallen barometers, and smooth sea. Extremes of barometers and temperature: Falmouth, 29·80 and 66°; Southport, 29·74 and 70°.

New Zealand.—Generally fine, with N.E. winds, and barometers at 30·0. Showery in extreme north ports.

New South Wales.—Generally fine and warm, with light variable winds and calms, almost steady barometers, and smooth sea. Cloudy and threatening in S.W. and N.E. parts. Light rain has fallen at places in north coast and mountain districts, heaviest at Tenterfield 1·76 inch. Extremes of barometers and temperature at 9 a.m.: Menindie, 29·90; Hay, 29·70; Bourke and Clarence, 88°; Wentworth 66°. Reading of the standard barometer at Sydney, corrected to 32° Fahr. and mean sea level at 9 a.m., 29·884. Extra stations: Nelson's Bay, max. 81, min. 32°, fine but cloudy weather; Lake Cudgellico, max. 101°, min. 72°, fine, clear, and hot; Walgett, rain, 0·06. (For further particulars see map.)

Queensland.—Generally fine and warm, with light N. to E. winds, risen barometers, and smooth sea. Sea rising off Cooktown. Rainfall: Cooktown, 0.32; Blackall, 0·01; and Roma, 0·01 inch. Extremes of barometers and temperature: Cooktown, 29·90 and 90°; Cape Moreton, 29·84 and 78°.

3 P.M. OBSERVATIONS.

Victoria.—Portland, WS.W., 36, showery, smooth sea, temperature 67°; Cape Otway, N.W., 18, misty, cloudy, smooth sea, temperature 67°; Wilson's Promontory, calm, fine, moderate sea, temperature 66°.

New South Wales.—Menindie, S., 14, fine, hot, temperature 9[illegible]°; Wentworth, S., 14, fine, hot, temperature 95°; Deniliquin, calm, raining, temperature 75°; Moruya, N.E., 40, cloudy like storm, smooth sea, temperature 76°; Cape St. George, N., 40, fine, smooth sea, temperature 74°; Sydney, N.E., 10, fine, moderate sea, temperature 75°; Newcastle, N.E., 10, fine, no sea, temperature 77°; Port Macquarie, E., 14, fine, smooth sea, temperature 85°; Walgett, calm, fine, clear, temperature 97°; Dubbo, calm, fine, temperature 85°; Goulburn, N.W., 10, fine, temperature 76°.

Queensland.—Brisbane, E., 18, fine, temperature 85°; barometer, 29·81.

HEIGHT OF RIVERS ABOVE SUMMER LEVEL.

Macintyre: At Mungindi, 9 feet. Barwon: At Mogil Mogil, 5 feet; at Walgett, 7 feet 2 inches. Namoi: At Walgett, 5 feet. Culgoa: At Goodooga, 2 feet 9 inches. Darling: At Brewarrina, 2 feet; at Bourke, 1 foot; at Louth, 5 feet 9 inches; at Tilpa, 6 feet 2 inches; at Wilcannia, 10 feet 4 inches; at Menindie, 24 feet 9 inches; at Pooncarie, 23 feet 7 inches; at Wentworth, 11 feet 9 inches. Murrumbidgee: At Gundagai, 11 feet; at Wagga, 25 feet 6 inches; at Hay, 5 inches; at Balranald, 3 feet. Murray: At Albury, 2 feet 6 inches; at Euston, 4 feet 4 inches.

ASTRONOMICAL MEMORANDA FOR JANUARY 31.

Sun rises at 5.22, sets at 7.5; Moon, 11.35 a.m., 10.55 p.m.; Mercury, 4.56 a.m., 7.0 p.m.; Venus, 6.26 a.m., 7.53 p.m; Mars, 6.52 a.m., 8.7 p.m.; Jupiter, 10.57 p.m., 12.7 p.m.; Saturn, 5.36 p.m., 3.34 a.m. Full moon, 10th; new moon, 24th.
High water at Fort Denison: 12.10 a.m., 12.30 p.m.

METEOROLOGICAL REPORTS AND MAP FOR JANUARY 31, 1887.

Stations	wt	Mx	Mn	R'in
Albury	b	87	55	0
Armidale	-	—	—	-
Balranald	b	101	55	0
Bathurst	b	87	54	0·08
Bega	b	85	63	0·25
Bourke	b	106	73	0
Br'w'rrina	b	101	57	0·40
Bundarra	b	85	64	0·84
C'md'n H	b	87	68	0
C. St. Geo	b	87	64	0·58
Casino	-	—	—	-
Cassilis	b	84	67	0
Clarence	-	—	—	-
C'nd'b'lin	b	101	51	0
Cooma	o	81	53	0
Coonab'n	b	94	60	0·42
Cowra	b	90	63	0
Deniliq'n	b	81	48	0·21
Dubbo	b	93	62	0·10
Eden	c	72	61	0·03
Euston	b	89	55	0
Forbes	b	—	61	0
Gl'n Inn's	b	95	58	0·72
Goulburn	b	89	56	0·13
Grafton	o	102	72	0·38
Gulgong	b	90	62	0
Gunned'h	-	—	—	-
Hay	b	84	56	0
Inverell	b	83	65	1·14
Kiandra	b	82	33	0·29
Lismore	-	—	—	-
Maitland	b	97	67	0·09
Marsdens	b	90	66	0·07
Menindie	b	86	65	0
Molong	b	92	56	0
M'r'ng'r'll	b	86	57	0·18
Moree	b	98	68	0·28
Moruya	c	76	64	0
Moss Vale	b	82	63	0
Mt. Hope	b	96	63	0
M. Vict'ria	b	90	51	0
Mudgee	b	93	61	0
M'rr'mb'h	b	98	56	0·12
M'rr'r'ndi	b	84	68	0
Mus'lbr'k	b	97	62	0
Narrabri	b	98	69	0·12
Newcastle	b	83	69	0
Orange	b	86	52	3·08
Picton	b	82	60	0·26
P. M'q'rie	b	91	65	0·02
P. St'ph'n	c	87	66	0
Q'nbeyan	b	84	62	0·34
Quirindi	b	91	65	0·41
Singleton	b	92	71	0
Sydney	c	87	70	0·01
Tamw'rth	b	90	60	0·25
Taralga	b	82	50	0
Taree	b	92	68	0·05
T'nt'rfield	-	—	—	0
Wagga	b	99	55	-
Walcha	-	—	—	0
Walgett	b	103	69	-
Warrah	b	90	55	0·16
W'ntw'rth	b	85	46	8
W'll'ng'ng	-	—	—	0
Young	b	94	52	

SYDNEY OBSERVATORY.

LATITUDE 33° 51' 41" S LONGITUDE 10h. 4m 50·81s. E

Average Annual Rainfall for 25 years...... [illegible]

Total Rainfall for 1886 39·426

From January 1 to January 31 1887 6·300

Barometer is corrected to 32° Fah. and Mean Sea Level.

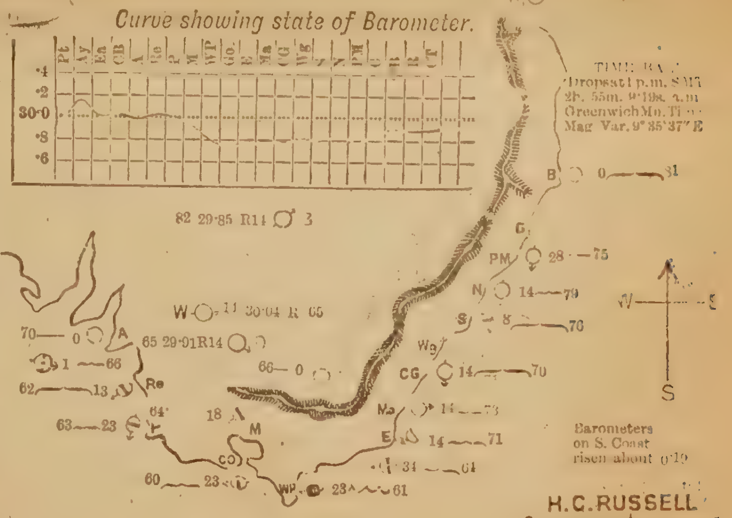
[illegible]

If it is CALM, the symbol is used without the arrow

Smooth sea.

Heavy sea

Very heavy sea.



TIME BALL. Dropsat 1 p.m. S.M.T. 2h. 55m. 9·19s. a.m. Greenwich Mn. Time. Mag. Var. 9° 35' 37" E

Barometers on S. Coast risen about 0·10

H. C. RUSSELL

GOVERNMENT ASTRONOMER

NOTES EXPLANATORY OF MAP.

In the list of stations the column headed W.T. gives the state of the weather at 9 a.m., b standing for blue sky; c, detached clouds; d, drizzling rain; f, fog; g, gloomy; h, hazy; m, misty; n, frosty; o, overcast; p, passing showers; r, rain; s, snow; t, thunder; u, threatening. The next column, M'x gives the maximum temperature for previous 24 hours. M'n the corresponding minimum temperature; r'n, the rain for the previous 24 hours. The symbols used in the map are explained on the margin. At each coast station the wind symbol is placed like a vane pointing to the direction from which the wind is coming. A clear circle with it means fine weather; a circle with bar, cloudy weather; and a black spot, raining. Next to this symbol are placed figures denoting the number of miles the wind is moving per hour; next, a symbol showing the state of the sea; and, lastly, figures denoting the shade temperature at 9 a.m. The barometer curve shows the state of barometers round the coast from Perth to Cooktown, viz.: Pt, Perth; Ay, Albany; Ea, Eucla; CB, Cape Borda; A, Adelaide; Re, Robe; P, Portland; M, Melbourne; WP, Wilson's Promontory; Go, Gabo; E, Eden; Ma, Moruya; CG, Jervis Bay; Wg, Wollongong; S, Sydney; N, Newcastle; PM, Port Macquarie; G, Clarence River; B, Brisbane; R, Rockhampton; Ct, Cooktown. Inland the state of barometer is given in figures at Albury, Deniliquin, Wentworth, Menindie, Bourke, and Alice Springs. The barometer curve enables one at a glance to trace the depressions, beginning with Western Australia, and passing along eastwards; northerly winds preceding them, and southerly following.

Western Australia.—Fine throughout except Albany, where it is reported cloudy. Fresh breeze from E. to S., and smooth and moderate sea on the coast.

South Australia.—Generally fine and cool, with a few scattered clouds on the coast and in S. and S.E.; wind generally between E. and S.E., and a few stations reporting S.W. Blowing fresh. Smooth sea on the coast. The barometer has risen about 13°. Rainfall: At Port Darwin, 1·88; Daly Waters, 0·28; Tennant's Creek, 0·11.

Victoria.—Cloudy weather generally at all the stations, squally at Lakes Entrance, and squally and showery at Wilson's Promontory, with a rather rough sea, wind between S. and W. and blowing fresh. Rainfall: At Melbourne, 0·33; Portland, 0·03; Cape Otway, 0·04; Wilson's Promontory, 0·19; Ballarat, 0·06; Omeo, 0·01; and Cape Schank, 0·16. The barometer has risen about 19°.

Tasmania.—Low Head, W.S.W., light, fine, rainfall 0·20; Hobart, S., strong, overcast, squally, 1·03 rain; Falmouth, S., 18, overcast, rain 0·25, sea dead calm; Circular Head, S.W., 23, fine, cloudy, rain 0·02, sea moderate.

New Zealand.—Russell, 30·0, S.W., fine; Wellington, 29·9, S.W., fine; Bluff, 29·7, N.E., gloomy.

New South Wales.—Fine throughout the colony. Most of the stations recorded rain this morning, chiefly to the E. of the range, wind generally between E. and S., and light; smooth sea all down the E. coast to Gabo Island, at which place the sea is moderate. Additional stations:—Coonamble, calm, fine, hot; Hill End, calm, fine; Wilcannia, calm, fine, hot; Lake Cudgellico, calm, fine, and clear; max, 83°, and min. 60°.

Queensland.—Rockhampton, E., fine; Brisbane, calm and cloudy; Cooktown, calm and hazy; 0·95 rain fell; sea very smooth, but rising.

3 P.M. OBSERVATIONS.

New South Wales.—Menindie, calm, fine, temperature 83°; Wentworth, S., fine, temperature 80°; Deniliquin, calm, fine, temperature 81°; Eden, S.W., fresh, light E. sea, temperature 79°; Moruya, S.E., 40, fine, smooth sea, temperature 70°; Cape St. George, E.S.E., 14, fine, smooth sea, temperature 75°; Sydney, E.S.E., light, cloudy, smooth sea, temperature 76°; Newcastle, S.E., moderate fine, smooth sea, temperature 76°; Port Macquarie, S.E., 14, fine, smooth sea, temperature 87°; Dubbo, N.W., 14, fine, temperature 80°; Goulburn, N.W., light, fine, temperature 74°.

HEIGHT OF RIVERS ABOVE SUMMER LEVEL.

Macintyre: At Mungindi, 13 feet, rising. Barwon: At Mogil Mogil, 9 feet, rising; at Walgett, 7 feet, steady. Namoi: At Walgett, 6 feet, rising. Culgoa: At Goodooga, 8 feet 8 inches, rising. Darling: At Brewarrina, 3 feet, rising; at Bourke, 1 foot 3 inches, rising; at Louth, 6 feet 3 inches, rising; at Tilpa, 6 feet 6 inches, rising; at Wilcannia, 9 feet 2 inches, rising; at Menindie, 24 feet 2 inches; at Pooncarie, 23 feet 7 inches; at Wentworth, 11 feet 7 inches. Murrumbidgee: At Gundagai, 6 feet 6 inches, falling; at Wagga, 12 feet; at Hay, 4 feet, rising fast; at Balranald, 2 feet 3 inches. Murray: At Albury, 1 feet 9 inches; at Euston, 4 feet 2 inches.

ASTRONOMICAL MEMORANDA FOR FEBRUARY 1.

Sun rises at 5.23, sets at 7.4; Moon, 12.30 p.m., 11.30 p.m.; Mercury, 4.59 a.m., 7.1 p.m.; Venus, 6.29 a.m., 7.53 p.m.; Mars, 6.52 a.m., 8.6 p.m.; Jupiter, 10.53 p.m., 12.3 p.m.; Saturn, 5.31 p.m., 3.29 a.m. Full moon, 8th; new moon, 23rd.

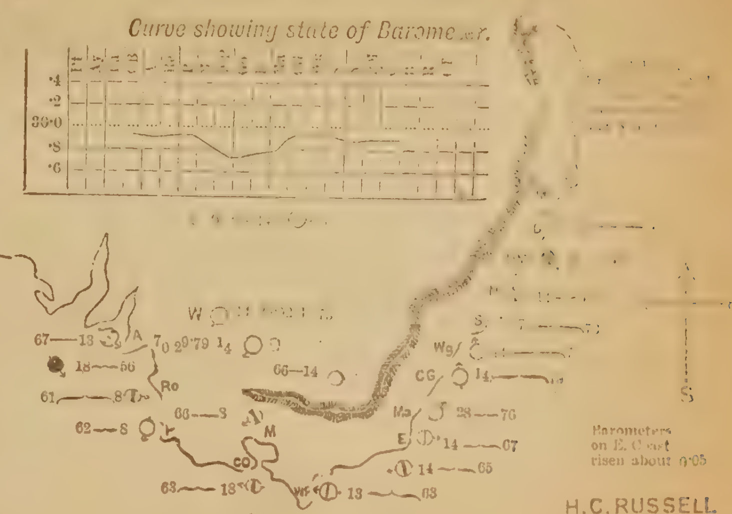
High water at Fort Denison: 12.49m., 1.12 p.m.

METEOROLOGICAL REPORTS AND MAP FOR FEBRUARY 1, 18[illegible]

Stations	wt	Mx	Mn	R'in
Albury	b	90	54	0
Armidale	b	91	63	0
[illegible]	[illegible]	[illegible]	[illegible]	0
Bathurst	b	83	54	0
Bend'm'r	b	87	70	0
Bodalla ..	b	84	64	0·03
Bourke ..	b	101	71	0
Br'w'rrina	–	–	–	–
[illegible]	b	84	66	0
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
C.St.Geo	b	[illegible]	[illegible]	[illegible]
Carcoar ..	b	[illegible]	[illegible]	0
Casino ..	b	[illegible]	[illegible]	[illegible]
Cassilis ..	o	84	70	[illegible]
Clarence	b	[illegible]	[illegible]	[illegible]
C'nd'b'lin	b	95	48	0
Cooma ..	b	80	54	0
Coonab'n	b	94	53	0
Cowra ..	b	91	62	0
Deniliq'n	b	93	49	0
Dubbo ..	b	89	56	0
Eden	u	79	62	0
Euston ..	c	91	52	0
Forbes ..	b	—	60	0
Gl'n Inn's	b	85	61	0
Goulburn	b	83	55	0
Grafton ..	u	97	74	0
Gulgong	b	85	60	0
Gunned'h	b	90	67	0
Hay	b	87	58	0
Inverell ..	b	84	68	0
Kiandra	b	79	43	0
Lismore	–	—	—	–
Maitland	g	88	69	0
Marsdens	b	86	65	0
Menindie	b	87	64	0
Molong ..	b	76	50	0
M'r'ng'r'll	b	82	56	0
Moree ..	b	99	68	0
Moruya ..	b	78	65	0
Moss Vale	b	79	61	0
Mt. Hope	b	92	63	0
M.Vict'ria	b	92	52	0
Mudgee	b	92	60	0
M'rt'mb'h	b	87	59	0
M'rr'r'ndi	b	85	68	0·10
Mus'lbr'k	b	94	60	0
Narr. bri	b	93	68	0
Newcastle	g	83	69	0
Orange ..	b	76	53	0
Picton ..	c	82	59	0
P. M'q'rie	r	84	71	0·33
P. St'ph'n	g	85	62	0
Q'nbeyan	b	77	62	0
Quirin	b	88	69	0
Singleton	g	92	75	0
SYDNEY ..	c	81	68	0
Tamw'rth	b	87	67	0
Taralga ..	b	81	56	0
Taree ..	c	91	73	0·21
T'nt'rfield	c	87	63	0·08
Wagga ..	b	91	56	0
Walcha ..	b	84	56	0
Walgett ..	b	97	63	0
Warialda ..	b	87	69	0
W'ntw'rth	b	89	60	0
W'll'ng'ng	b	81	66	0
Young ..	b	93	52	0

SYDNEY OBSERVATORY.
LATITUDE 33° 51' 41" S. LONGITUDE 10h. 4m. 50·8s. E.

[illegible]
Average for 29 years from January 1 to 31, ...3·610
Total rainfall from January 1 to Feb. 1, 1887 ....6·390
Barometers corrected to 32° Fahr. and Mean Sea Level



[illegible] Smooth sea
[illegible] heavy sea
Very heavy sea

Barometers on E. Coast risen about 0·05

H.C. RUSSELL,
GOVERNMENT ASTRONOMER.

NOTES EXPLANATORY OF MAP.

In the list of stations the column headed W.T. gives the state of the weather at [illegible] standing for blue sky; c, detached clouds; d, drizzling rain; [illegible] m, misty; n, frosty; o, overcast; p, passing showers; [illegible] threatening. The next column, Mx gives the maximum [illegible] hours. Mn the corresponding minimum temperature [illegible] hours. The symbols used in the map are explained in the [illegible] the wind [illegible] coming. A clear circle [illegible] weather; and a black spot, raining. Next to [illegible] the number of miles the wind is moving per hour [illegible] of the sea; and, lastly, [illegible] curve shows the state of barometers round the coast from Perth to Cooktown. Perth; Ay, Albany; Ea, Eucla; CP, Cape Borda; A, Adelaide; [illegible] M, Melbourne; W P, Wilson's Promontory; Go, Gabo; E, Eden; Ma, [illegible] Bay; Wg, Wollongong; S, Sydney; [illegible] River; B, Brisbane; R, Rockhampton; [illegible] Ct, Cooktown. [illegible] the state of [illegible] is given in figures at Albury, Deniliquin, Wentworth, Menindie, Bourke. Springs. The barometer curve enables one at a glance to trace the [illegible] beginning with Western Australia, and passing along eastwards; northerly winds [illegible] ceding them, and southerly following.

Western Australia.—No telegrams.

South Australia.—Generally overcast and gloomy, with light rain in places west of Adelaide, light south to S.E. winds, fallen barometers and smooth sea. Rainfall: Daly Waters, 1·18; Port Darwin, 0·94; Yam Creek, 0·97; Alice Springs, 0·18; and Cape Borda, 0·17 inch. Extremes of barometers and temperature on and near the coast: Cape Borda, 29·92 and 56°; Port Augusta, 29·74; and Adelaide, 67°. In Northern Territory: Daly Waters, 29·73 and 81°; Port Darwin, 29·53 and 84°.

Victoria.—Fine inland, more or less cloudy on the coast, with light S. to W. winds, fallen barometers and smooth sea. Squally at Wilson's Promontory. Extremes of barometers and temperature: Portland, 29·97 and 62°; Wilson's Promontory, 29·78; and Horsham, 73°.

Tasmania.—Generally fine, with light westerly winds on the north coast, variable winds in south, fallen barometers, and smooth sea. Extremes of barometers and temperature: Circular Head, 29 77 and 64°; Hobart, 29·63; and Low Heads, 61°.

New Zealand.—Generally fine on North Island, with N.W. wind and calm. Gloomy, with north wind in the extreme south. Barometers: Russell, 29·9, Wellington, 29·7, and Bluff, 29·5.

New South Wales.—Generally fine and clear, with light N.E. to S.E. winds, slightly risen barometers, and smooth sea. Cloudy, light rain fallen in N.E. parts; heaviest at Port Macquarie, where it was still raining at 9 a.m. Extremes of barometers and temperatures at 9 a.m.: Cape St. George, 29·93, Forbes, 29·72, Bourke 86°, and Cooma 62°. Reading of the standard barometer at Sydney corrected to 32° Fahr. and mean sea level, at 9 a.m., 29·879. Extra station: Lake Cudgellico, max. 87., min. 57°, fine, cool, and clear. For further particulars see map.

Queensland.—No telegram.

3 P.M. OBSERVATIONS.

Victoria.—Portland, W.S.W., 23, fine, smooth sea; temperature 67°; Cape Otway, W.N.W., 23, cloudy, smooth sea, temperature 66°; Melbourne, S., 8, cloudy, temperature 70°; Cape Schanck, S.W., 13, fine but cloudy, smooth sea, temperature 67°; Wilson's Promontory, W., 13, cloudy and dull, smooth sea, temperature 62°; Lakes Entrance, S.W., 15, cloudy, temperature 7[illegible].

New South Wales.—Menindie, calm, fine and hot, temperature 85°; Wentworth, W., dull, temperature 83°; Deniliquin, S.W., cloudy, temperature 81°; Moruya, N.E., 28, fine, smooth sea, temperature 76°; Cape St. George, N.N.E., 28, fine, smooth sea, temperature 72°; Sydney, E.N.E., 20, fine smooth sea, temperature 75°; Newcastle, N.E., 28, fine, smooth sea, temperature 71°, Port Macquarie, E.N.E., 28, fine, smooth sea, temperature 81°, Dubbo, calm, fine, temperature 81°; Goulburn, W., fine, temperature 76°.

HEIGHT OF RIVERS ABOVE SUMMER LEVEL.

Macintyre: At Mungindi, 19 feet. Barwon: At Mogil Mogil, 10 feet; at Walgett, 8 feet. Namoi: At Walgett, 7 feet. Culgoa: At Goodooga, 4 feet. Darling: At Brewarrina, 3 feet 3 inches, at Bourke, 6 feet 6 inches; at Louth, 6 feet 6 inches; at Tilpa, 7 feet 6 inches; at Wilcannia, 8 feet; at Menindie, 24 feet; at Pooncarie, 23 feet 7 inches; at Wentworth, 11 feet 3 inches. Murrumbidgee: At Gundagai, 6 feet; at Wagga, 9 feet 6 inches; at Hay, 6 feet 9 inches; at Balranald, 2 feet. Murray: At Albury, 1 foot 4 inches; at Euston, 4 feet.

ASTRONOMICAL MEMORANDA FOR FEBRUARY 2.

Sun rises at 5.24, sets at 7.4; Moon, 1.27 p.m.; Mercury, 5.3 a.m., 7.2 p.m.; Venus, 6.31 a.m., 7.53 p.m.: Mars, 6.52 a.m., 8.4 p.m.; Jupiter, 10.49 p.m., 11.59 a.m.; Saturn, 5.27 p.m., 3.25 a.m. Full moon, 8th; new moon, 23rd.

High water at Fort Denison: 1.35 a.m., 2.6 p.m.

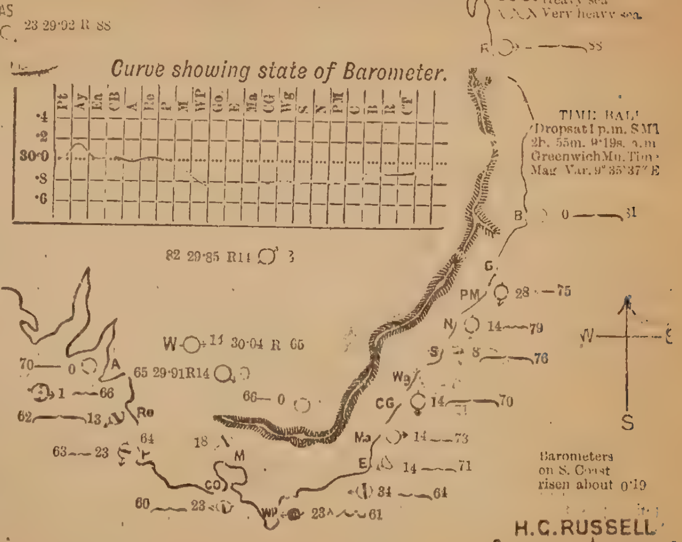
METEOROLOGICAL REPORTS AND MAP FOR JANUARY 31, 1887.

Stations	wt	Mx	mn	R'in
Albury	b	87	55	0
Armidale	-	—	—	-
Balranald	b	101	55	0
Bathurst	b	87	54	0·08
Ber d'm'r	b	85	63	0·25
Bodalla ..	b	85	61	0·37
Bourke ..	b	106	73	0
Br'w rrina	b	101	57	0·40
Bundarra	b	85	64	0·84
C'md'n H	b	87	68	0
C. St. Geo	b	87	64	0·58
Carcoar...	b	80	46	0
Casino ..	-	—	—	-
Cassilis ..	b	84	67	0
Clarence	-	—	—	-
C'nd'b'lin	b	101	51	0
Cooma ..	o	81	53	0
Coonab'n	b	94	60	0·42
Cowra ..	b	90	63	0
Deniliq'n	b	81	48	0·21
Dubbo ..	b	93	62	0·10
Eden	c	72	61	0·03
Euston ..	b	89	55	0
Forbes ..	b	—	61	0
Gl'n Inn's	b	95	58	0·72
Goulburn	b	89	56	0·13
Grafton ..	o	102	72	0·38
Gulgong	b	90	62	0
Gunned'h	-	—	—	-
Hay	b	84	56	0
Inverell..	b	83	65	1·14
Kiandra	b	82	33	0·29
Lismore	-	—	—	-
Maitland	b	97	67	0·09
Marsdens	b	90	66	0·07
Menindie	b	86	65	0
Molong ..	b	92	56	0
M'r'ng'r'll	b	86	57	0·18
Moree ..	b	98	68	0·28
Moruya..	c	76	64	0
Moss Vale	b	82	63	0
Mt. Hope	b	96	63	0
M. Vict'ria	b	90	51	0
Mudgee	b	93	61	0
M'rr'mb'h	b	98	56	0·12
M'rr'r'ndi	b	84	68	0
Mus'lbr'k	b	97	62	0
Narrabri	b	98	69	0·12
Newcastle	b	83	69	0
Orange ..	b	86	52	3·08
Picton .	b	82	60	0·26
P. M'q'rie	b	91	65	0·02
P. St'ph'n	c	87	66	0
Q'nbeyan	b	84	62	0·34
Quirindi	b	91	65	0·41
Singleton	b	92	71	0
SYDNEY ..	c	87	70	0·01
Tamw'rth	b	90	60	0·25
Taralga ..	b	82	50	0
Tareo ..	b	92	68	0·05
T'nt'rfield	-	—	—	0
Wagga ..	b	99	55	-
Walcha ..	-	—	—	0
Walgett..	b	103	69	-
Warrah ..	b	90	55	0·16
W'ntw'rth	b	85	46	8
W'll'ng'ng	-	—	—	·0
Young ...	b	94	52	

SYDNEY OBSERVATORY.
LATITUDE 33° 51' 41" S LONGITUDE 10h. 4m. 50·8s. E.

Average Annual Rainfall for 28 years...... .. 49·489
Total Rainfall for 1886 39·128
From January 1 to January 31 1887 6·390
Barometers corrected to 32° Fah. and Mean Sea Level

Fine, wind N. Cloud, wind E. T. storm, wind S. Rain, wind W.
If it is CALM, the symbol is used without the arrow.
Smooth sea
Heavy sea
Very heavy sea.



H. C. RUSSELL,
GOVERNMENT ASTRONOMER

NOTES EXPLANATORY OF MAP.

In the list of stations the column headed W.T. gives the state of the weather at 9 a.m., b standing for blue sky; c, detached clouds; d, drizzling rain; f, fog; g, gloomy; h, hazy; m, misty; n, frosty; o, overcast; p, passing showers; r, rain; s, snow; t, thunder; u, threatening. The next column. M'x gives the maximum temperature for previous 24 hours. M'n the corresponding minimum temperature; r'n, the rain for the previous 24 hours. The symbols used in the map are explained on the margin. At each coast station the wind symbol is placed like a vane pointing to the direction from which the wind is coming. A clear circle with it means fine weather; a circle with bar, cloudy weather; and a black spot, raining. Next to this symbol are placed figures denoting the number of miles the wind is moving per hour; next, a symbol showing the state of the sea; and, lastly, figures denoting the shade temperature at 9 a.m. The barometer curve shows the state of barometers round the coast from Perth to Cooktown:—Pt, Perth; Ay, Albany; Ea, Eucla; CB, Cape Borda; A, Adelaide; Re, Robe; P, Portland; M, Melbourne; WP, Wilson's Promontory; Go, Gabo; E, Eden; Ma, Moruya; CG, Jervis Bay; Wg, Wollongong; S, Sydney; N, Newcastle; PM, Port Macquarie; C, Clarence River; B, Brisbane; R, Rockhampton; Ct, Cooktown. Inland the state of barometer is given in figures at Albury, Deniliquin, Wentworth, Menindie, Bourke and Alice Springs. The barometer curve enables one at a glance to trace the depressions, beginning with Western Australia and passing along eastwards; northerly winds preceding them, and southerly following.

Western Australia.—Fine throughout except Albany, where it is reported cloudy. Fresh breeze from E. to S., and smooth and moderate sea on the coast.

South Australia.—Generally fine and cool, with a few scattered clouds on the coast and in S. and S.E.; wind generally between E. and S.E., and a few stations reporting S.W. Blowing fresh. Smooth sea on the coast. The barometer has risen about 13·. Rainfall: At Port Darwin, 1·88; Daly Waters, 0·28; Tennant's Creek, 0·11.

Victoria.—Cloudy weather generally at all the stations, squally at Lakes Entrance, and squally and showery at Wilson's Promontory, with a rather rough sea, wind between S. and W. and blowing fresh. Rainfall: At Melbourne, 0·33; Portland, 0·03; Cape Otway, 0·04; Wilson's Promontory, 0·19; Ballarat, 0·06; Omeo, 0·01; and Cape Schank, 0·16. The barometer has risen about 19·.

Tasmania.—Low Head, W.S.W., light, fine, rainfall 0·20; Hobart, S., strong, overcast, squally, 1·03 rain; Falmouth, S., 18, overcast, rain 0·25, sea dead calm; Circular Head, S.W., 23, fine, cloudy, rain 0·02, sea moderate.

New Zealand.—Russell, 30·0, S.W., fine; Wellington, 29·9, S.W., fine; Bluff, 29·7, N.E., gloomy.

New South Wales.—Fine throughout the colony. Most of the stations recorded rain this morning, chiefly to the E. of the range, wind generally between E. and S., and light; smooth sea all down the E. coast to Gabo Island, at which place the sea is moderate. Additional stations:—Coonamble, calm, fine, hot; Hill End, calm, fine; Wilcannia, calm, fine, hot; Lake Cudgellico, calm, fine, and clear; max, 83·, and min. 60·.

Queensland.—Rockhampton, E., fine; Brisbane, calm and cloudy; Cooktown, calm and hazy; 0·95 rain fell; sea very smooth, but rising.

3 P.M. OBSERVATIONS.

New South Wales.—Menindie, calm, fine, temperature 83·; Wentworth, S., fine, temperature 80·; Deniliquin, calm, fine, temperature 81·; Eden, S.W., fresh, light E. sea, temperature 79·; Moruya, S.E., 40, fine, smooth sea, temperature 70·; Cape St. George, E.S.E., 14, fine, smooth sea, temperature 75·; Sydney, E.S.E., light, cloudy, smooth sea, temperature 76·; Newcastle, S.E., moderate fine, smooth sea, temperature 76·; Port Macquarie, S.E., 14, fine, smooth sea, temperature 87·; Dubbo, N.W., 14, fine, temperature 80·; Goulburn, N.W., light, fine, temperature 74·.

HEIGHT OF RIVERS ABOVE SUMMER LEVEL.

Macintyre: At Mungindi, 13 feet, rising. Barwon: At Mogil Mogil, 9 feet, rising; at Walgett, 7 feet, steady. Namoi: At Walgett, 6 feet, rising. Culgoa: At Goodooga, 8 feet 8 inches, rising. Darling: At Brewarrina, 3 feet, rising; at Bourke, 1 foot 3 inches, rising; at Louth, 6 feet 3 inches, rising; at Tilpa, 6 feet 6 inches, rising; at Wilcannia, 9 feet 2 inches, rising; at Menindie, 24 feet 2 inches; at Pooncarie, 23 feet 7 inches; at Wentworth, 11 feet 7 inches. Murrumbidgee: At Gundagai, 6 feet 8 inches, falling; at Wagga, 12 feet; at Hay, 4 feet, rising fast; at Balranald, 2 feet 3 inches. Murray: At Albury, 1 feet 9 inches; at Euston, 4 feet 2 inches.

ASTRONOMICAL MEMORANDA FOR FEBRUARY 1.

Sun rises at 5.23, sets at 7.4; Moon, 12.30 p.m., 11.30 p.m.; Mercury, 4.59 a.m., 7.1 p.m.; Venus, 6.29 a.m., 7.53 p.m.; Mars, 6.52 a.m., 8.6 p.m.; Jupiter, 10.53 p.m., 12.3 p.m.; Saturn, 5.31 p.m., 3.29 a.m. Full moon. 8th; new moon, 23rd.

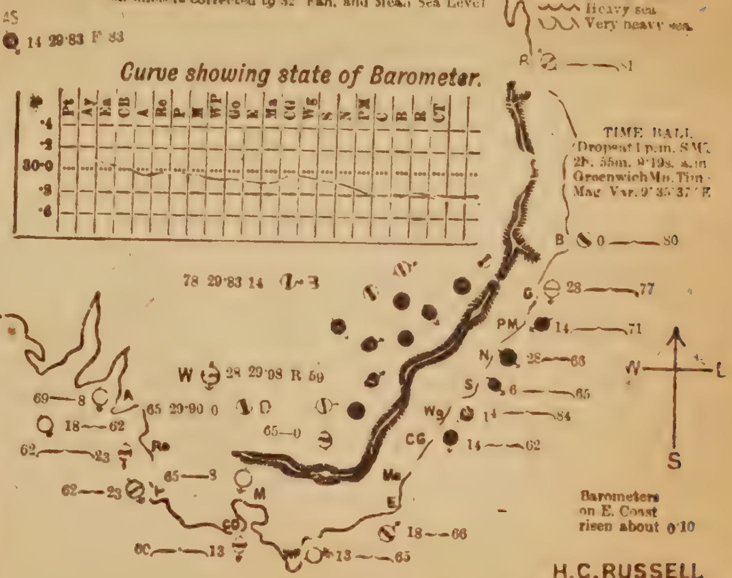
High water at Fort Denison: 12.49m., 1.12 p.m.

METEOROLOGICAL REPORTS AND MAP FOR FEBRUARY 3, 1887.

Stations	wt	Mx	mn	R'in
Albury	g	87	65	0
Armidale.	u	86	65	0·05
Balranald	g	69	55	0·60
Bathurst	r	72	57	0·77
Bend'm's	u	84	64	0·07
Bodalla ..	-	—	—	-
Bourke ..	g	87	70	0·45
Br'w rrina	c	—	—	1·40
Bundarra	g	84	71	0·11
C'md'n H	r	88	74	8·53
C.St.Geo	r	70	60	0
Carcoar ..	r	70	46	0·55
Casino ..	c	96	72	0
Cassilis ..	r	82	65	1·21
Clarence	c	87	68	0
C'nd'b'lin	r	75	48	0·44
Cooma ..	r	81	53	0·18
Coonab'n	r	90	61	1·05
Cowra ..	r	93	61	0·64
Deniliq'n	g	80	54	0
Dubbo ..	r	81	61	1·41
Eden	-	—	—	-
Euston ..	u	70	54	0·59
Forbes ..	r	—	61	0·63
Gl'n Inn's	u	89	57	0
Goulburn	r	78	54	0·26
Grafton ..	u	95	75	0·02
Gulgong	o	80	55	1·12
Gunned'b	-	—	—	-
Hay	r	76	53	0·60
Inverell ..	u	85	71	0
Kiandra	g	72	47	0·14
Lismore	c	90	75	0·02
Maitland	r	96	6.	0·33
Marrdens	n	80	66	1·25
Menindie	g	72	61	1·51
Molong ..	r	75	57	0·92
M'r'ng'r'll	r	73	61	1·27
Moree ..	n	90	75	0
Moruya ..	-	—	—	-
Moss Vale	r	72	67	0·28
Mt. Hope	r	79	63	1·10
M. Vict'ria	r	78	52	0·57
Mudgee	r	91	61	1·20
M'rr'mb'h	c	77	59	0·33
M'rr'r'ndi	r	81	67	0·68
Mus'lbr'k	r	95	75	0·59
Narrabri	r	95	64	0·43
Newcastle	r	89	65	0·31
Orange ..	r	68	54	0·97
Picton ..	r	79	61	0·09
P. M'q'rie	r	89	65	2·75
P. St'ph'n	r	90	62	0·30
Q'nbeyan	u	76	59	0
Quirindi	r	91	70	0·30
Singleton	r	88	67	0·68
SYDNEY ..	r	77	65	0·27
Tamw'rth	r	87	63	0·13
Taralga ..	r	86	55	0·50
Taree ..	r	92	71	5·45
T'nt'rfield	-	—	—	-
Wagga ..	r	85	60	0·20
Walcha ..	r	81	57	0·10
Walgett ..	o	83	70	0·11
Warrah ..	r	87	49	0·30
W'ntw'rth	c	77	58	0·48
W'll'ng'ng	r	77	63	0·09
Young ..	r	79	56	0·89

SYDNEY OBSERVATORY.
LATITUDE 33° 51' 41" S. LONGITUDE 10h. 4m. 50·1s. E.

Average Annual Rainfall for 28 years...... ... 49·489
Average for 29 years from January 1 to 31. ....3·610
Total Rainfall from January 1 to Feb. 3, 1887 ..6·570
Barometers corrected to 32° Fah. and Mean Sea Level



H.C.RUSSELL
GOVERNMENT ASTRONOMER

NOTES EXPLANATORY OF MAP.

In the list of stations the column headed W. T. gives the state of the weather at 9 a.m., b standing for blue sky; c, detached clouds; d, drizzling rain; f, fog; g, gloomy; h. hazy; m. misty; n. frosty; o, overcast; p. passing showers; r. rain; s, snow; t, thunder; u, threatening. The next column. M'x gives the maximum temperature for previous 24 hours. M'n the corresponding minimum temperature; r'n. the rain for the previous 24 hours. The symbols used in the map are explained on the margin. At each coast station the wind symbol is placed like a vane pointing to the direction from which the wind is coming. A clear circle with it means fine weather; a circle with bar, cloudy weather; and a black spot, raining. Next to this symbol are placed figures denoting the number of miles the wind is moving per hour; next, a symbol showing the state of the sea; and, lastly, figures denoting the shade temperature at 9 a.m. The barometer curve shows the state of barometers round the coast from Perth to Cooktown:—Pt, Perth; Ay, Albany; Ea, Eucla; C B, Cape Borda; A, Adelaide; Re, Robe; P, Portland; M, Melbourne; W P, Wilson's Promontory; Go, Gabo; E, Eden; Ma, Moruya; C G, Jervis Bay; Wg, Wollongong; S, Sydney; N, Newcastle; P M, Port Macquarie; C, Clarence River; B, Brisbane; R, Rockhampton; Ct, Cooktown. Inland the state of barometer is given in figures at Albury, Deniliquin, Wentworth, Menindie, Bourke, and Alice Springs. The barometer curve enables one at a glance to trace the depressions, beginning with Western Australia, and passing along eastwards; northerly winds preceding them, and southerly following.

Western Australia.—At Albany, misty, rain falling, with light east wind, and smooth sea. Barometer, 30·15; rainfall, 0·06 inch.

South Australia.—Generally fine and cool, with scattered clouds, light S. to S.E. winds, risen barometers, and smooth sea. Rain has fallen along the Murray, generally from 0·40 to 0·50 inches. Extremes of barometers and temperature: Cape Borda, 30·03 and 62°; Farina, 29·83; and Adelaide, 69°. No reports from north.

Victoria.—Generally fine, with clouds in places, light easterly winds, risen barometers, and moderate sea. Extremes of barometers and temperature: Cape Otway, 30·03; Omeo, 29·88; Horsham, 72°; and Hamilton, 57°.

Tasmania.—Generally fine but cloudy, with light N. to W. winds, risen barometers, and smooth sea. Rainfall at Southport, 0·02 inch. Extremes of barometers and temperature: Low Heads, 29·97 and 65°; Southport, 29·88; and Circular Heads, 57°.

New Zealand.—Fine on North Island, showery on the S. E. coast. Winds from N. W. to S. W.; sea, generally rough. Barometers: Russell, 30·0; Wellington, 29·6; and Bluff, 29·7.

New South Wales.—Raining more or less heavily throughout the colony, except in extreme N. E. and S. W. parts, where it is threatening rain. Winds are light from N. E. to S. E., and in places calms. Barometers have risen slightly. The sea is smooth to moderate. Rain has fallen generally, rather heavy west of the range, and very heavy on the coast between the Manning and Macleay Rivers. Camden Haven reports 8·53, Taree 5·45, and Port Macquarie 2·75 inches. Twelve stations situated west of the range had above one inch rain. Extra stations: Goodooga, rain 2·05; Temora, 0·60 inch rain, and still raining; Lake Cudgellico, max. 64°, min. 62., 1·10 inch rain, and raining steadily. For further particulars see map.

Queensland.—Raining in north parts, cloudy and unsettled in south, chiefly N. to W. winds. Rainfall: Normanton, 1·59; Rockhampton, 0·55; Cape Moreton, 0·37; and Brisbane, 0·16. Extremes of barometers and temperature: Normanton, 29·94; Townsville, 87°; Cape Moreton, 78° and 29·77.

3 P.M. OBSERVATIONS.

Victoria.—No telegrams.

New South Wales.—Menindie, S., 14, overcast, temperature 72°; Wentworth, fine and clear, temperature 78°; Deniliquin, calm, fine but cloudy, temperature 75°; Eden, N.E., 14, raining, smooth sea, temperature 65°; Moruya, S.S.W., 14, dull, smooth sea, temperature 66°; Cape St. George, S.E., 42, showery, smooth sea, temperature 68°; Sydney, E.S.E., 6, overcast and threatening, moderate sea, temperature 67°; Newcastle, S., 14, raining, moderate sea, temperature 66°; Port Macquarie, W., 42, overcast and showery, smooth sea, temperature 76°; Clarence River, N.E., 14, cloudy, smooth sea, temperature 83°; Walgett, S.W., 14, cloudy, temperature 84°; Dubbo, E., 14, overcast and raining, temperature 70°.

It will be seen that the tributaries of the Darling are rising fast, and there is every indication of a considerable rise in the river at Bourke.

HEIGHT OF RIVERS ABOVE SUMMER LEVEL.

Macintyre: At Mungindi, 19 feet. Barwon: At Mogil Mogil, 13 feet; at Walgett, 12 feet, rising. Namoi: At Walgett, 9 feet, rising. Culgoa: At Goodooga, 4 feet, rising. Darling: At Brewarrina, 4 feet; at Bourke, 7 feet 1 inch; at Tilpa, 7 feet 6 inches; at Wilcannia, 8 feet; at Menindie, 23 feet 8 inches; at Pooncarie, 23 feet 6 inches; at Wentworth, 11 feet 1 inch. Murrumbidgee: At Gundagai, 5 feet; at Wagga, 7 feet 3 inches; at Hay, 10 inches; at Balranald, 1 foot 10 inches. Murray: At Albury, 1 foot 4 inches; at Euston, 3 feet 4 inches.

ASTRONOMICAL MEMORANDA FOR FEBRUARY 4.

Sun rises at 5.26, sets at 7.2; Moon, 3.22 p.m., 12.50 a.m.; Mercury, 5.11 a.m., 7.4 p.m.; Venus, 6.33 a.m., 7.52 p.m; Mars, 6.52 a.m., 8.0 p.m.; Jupiter, 10.41 p.m., 11.51 a.m.; Saturn, 5.19 p.m., 8.16 a.m. Full moon, 8th; new moon, 23rd.

High water at Fort Denison, February 4: 3.49 a.m., 4.28 p.m.

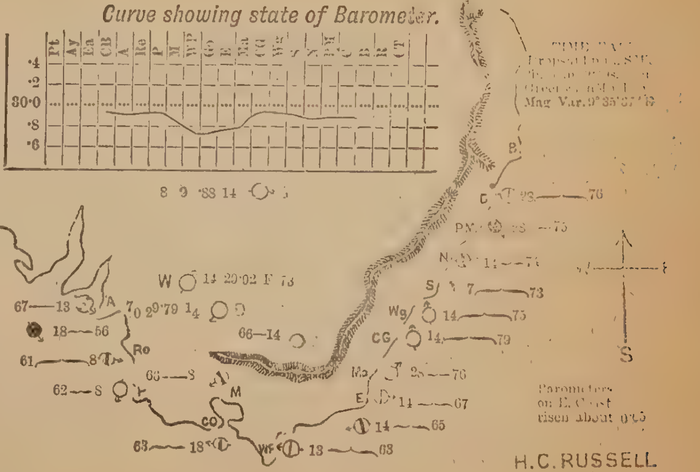
METEOROLOGICAL REPORTS AND MAP FOR FEBRUARY 1, 1887.

Stations	W.T.	Mx	Mn	R'n
Albury	b	90	51	0
Armidale	b	91	63	0
Balranald	c	100	55	0
Bathurst	b	83	54	0
Bend'm'r	b	87	70	0
Bodalla ..	b	84	64	0·03
Bourke ..	b	101	71	0
Br'w rrina	—	—	—	—
Bundarra	b	84	66	0
C'md'n H	c	83	65	0
C.St.Geo	b	[illegible]	[illegible]	0
Carcoar ..	b	75	51	0
Casino ..	b	96	68	0·10
Cassilis ..	o	84	70	0
Clarence	b	94	74	0·04
C'nd'b'lin	b	95	48	0
Cooma ..	b	80	54	0
Coonab'n	b	94	53	0
Cowra ..	b	91	62	0
Deniliq'n	b	93	49	0
Dubbo ..	b	89	56	0
Eden	u	79	62	0
Euston ..	c	91	52	0
Forbes ..	b	—	60	0
Gl'n Inn's	b	85	61	0
Goulburn	b	83	55	0
Grafton ..	u	97	74	0
Gulgong	b	85	60	0
Gunned'h	b	90	67	0
Hay	b	87	58	0
Inverell ..	b	84	68	0
Kiandra	b	79	43	0
Lismore	—	—	—	—
Maitland	g	88	69	0
Marsdens	b	86	65	0
Menindie	b	87	64	0
Molong ..	b	76	50	0
M'r'ng'r'll	b	82	56	0
Moree ..	b	99	68	0
Moruya ..	b	78	65	0
Moss Vale	b	79	61	0
Mt. Hope	b	92	63	0
M. Vict'ria	b	92	52	0
Mudgee	b	92	60	0
M'r'mb'h	b	87	59	0
M'rr'r'ndi	b	85	68	0·10
Mus'lbr'k	b	94	60	0
Narr bri	b	93	68	0
Newcastle	g	83	69	0
Orange ..	b	76	53	0
Peron ..	c	82	59	0
P. M'q'rie	r	84	71	0·33
P. St'ph'n	g	85	62	0
Q'nbeyan	b	77	62	0
Quirin	b	88	60	0
Singleton	g	92	75	0
SYDNEY ..	c	81	68	0
Tamw'rth	b	87	67	0
Taralga ..	b	81	56	0
Tates ..	c	91	73	0·21
T'nt'rfield	c	87	63	0·08
Wagga ..	b	91	56	0
Walcha ..	b	84	56	0
Walgett ..	b	97	63	0
Warialda ..	b	87	69	0
W ntw'rth	b	89	60	0
W'll'ng'ng	b	81	66	0
Young ..	b	93	52	0

SYDNEY OBSERVATORY.
LATITUDE 33° 51' 41" S. LONGITUDE 10h. 4m. 50·8s. E.

Average Annual Rainfall for 28 years .... 49·589
Average for 29 years from January 1 to 31 ...... 8·919
Total Rainfall from January 1 to Feb. 1, 1887 ...... 6·3·9
Barometers corrected to 32° Fah. and Mean Sea Level.

Curve showing state of Barometer.



H. C. RUSSELL,
GOVERNMENT ASTRONOMER.

NOTES EXPLANATORY OF MAP.

In the list of stations the column headed W.T. gives the state of the weather at 9 a.m., b standing for blue sky; c, detached clouds; d, drizzling rain; f, fog; g, gloomy; h, hazy; m, misty; n, frosty; o, overcast; p, passing showers; r, rain; s, snow; t, thunder; u, threatening. The next column, Mx gives the maximum temperature for previous 24 hours. M'n the corresponding minimum temperature; R'n, the rain for the previous 24 hours. The symbols used in the map are explained on the margin. At each coast station the wind symbol is placed like a vane pointing to the direction from which the wind is coming. A clear circle with it means fine weather; a circle with half clouds cloudy weather; and a black spot, raining. Next to this symbol are placed figures denoting the number of miles the wind is moving per hour, next a symbol showing the state of the sea; and, lastly, figures denoting the temperature in shade. The barometer curve shows the state of barometers round the coast from Perth to Cooktown:—Pt, Perth; Ay, Albany; Ea, Eucla; CB, Cape Borda; A, Adelaide; Ro, Robe; P, Portland; M, Melbourne; WP, Wilson's Promontory; G, Gabo; E, Eden; Mo, Moruya; Cr, Crowdy Bay; Wg, Wollongong; S, Sydney; N, Newcastle; PM, Port Macquarie; C, Clarence River; B, Brisbane; R, Rockhampton; C, Cooktown. The state of the river is given in figures at Albury, Deniliquin, Wentworth, Menindie, Bourke, and Moree Springs. The barometer curve enables one at a glance to see the storms; beginning with Western Australia, and passing along eastwards; northerly winds preceding them, and southerly following.

Western Australia.—No telegrams.

South Australia.—Generally overcast and gloomy, with light rain in places west of Adelaide, light south to S.E. winds, fallen barometers and smooth sea. Rainfall: Daly Waters, 1·18; Port Darwin, 0·94; Yam Creek, 0·97; Alice Springs, 0·18; and Cape Borda, 0·17 inch. Extremes of barometers and temperature on and near the coast: Cape Borda, 29·92 and 56°; Port Augusta, 29·74; and Adelaide, 67°. In Northern Territory: Daly Waters, 29·73 and 81°; Port Darwin, 29·53 and 84°.

Victoria.—Fine inland, more or less cloudy on the coast, with light S. to W. winds, fallen barometers and smooth sea. Squally at Wilson's Promontory. Extremes of barometers and temperature: Portland, 29·97 and 62°; Wilson's Promontory, 29·78; and Horsham, 73°.

Tasmania.—Generally fine, with light westerly winds on the north coast, variable winds in south, fallen barometers, and smooth sea. Extremes of barometers and temperature: Circular Head, 29 77 and 64°; Hobart, 29·63; and Low Heads, 61°.

New Zealand.—Generally fine on North Island, with N.W. wind and calm. Gloomy, with north wind in the extreme south. Barometers: Russell, 29·9, Wellington, 29·7, and Bluff, 29·5.

New South Wales.—Generally fine and clear, with light N.E. to S.E. winds, slightly risen barometers, and smooth sea. Cloudy, light rain fallen in N.E. parts; heaviest at Port Macquarie, where it was still raining at 9 a.m. Extremes of barometers and temperatures at 9 a.m.: Cape St. George, 29·93, Forbes, 29·72, Bourke 86°, and Cooma 62°. Reading of the standard barometer at Sydney corrected to 32° Fahr. and mean sea level, at 9 a.m., 29·879. Extra station: Lake Cudgellico, max. 87., min. 57°, fine, cool, and clear. For further particulars see map.

Queensland.—No telegram.

3 P.M. OBSERVATIONS.

Victoria.—Portland, W.S.W., 23, fine, smooth sea, temperature 67°; Cape Otway, W.N.W., 25, cloudy, smooth sea, temperature 66°; Melbourne, S., 8, cloudy, temperature 70°; Cape Schanck, S.W., 13, fine but cloudy, smooth sea, temperature 67°; Wilson's Promontory, W., 13, cloudy and dull, smooth sea, temperature 62°; Lakes Entrance, S.W., 13, cloudy, temperature 73°.

New South Wales.—Menindie, calm, fine and hot, temperature 85°; Wentworth, W., dull, temperature 83°; Deniliquin, S.W., cloudy, temperature 81°; Moruya, N.E., 28, fine, smooth sea, temperature 76°; Cape St. George, N.N.E., 28, fine, smooth sea, temperature 72°; Sydney, E.N.E., 20, fine smooth sea, temperature 75°; Newcastle, N.E., 28, fine, smooth sea, temperature 71°; Port Macquarie, E.N.E., 28, fine, smooth sea, temperature 81°; Dubbo, calm, fine, temperature 81°; Goulburn, W., fine, temperature 76°.

HEIGHT OF RIVERS ABOVE SUMMER LEVEL.

Macintyre: At Mungindi, 19 feet. Barwon: At Mogil Mogil, 10 feet; at Walgett, 8 feet. Namoi: At Walgett, 7 feet. Culgoa: At Goodooga, 4 feet. Darling: At Brewarrina, 3 feet 3 inches; at Bourke, 6 feet 6 inches; at Louth, 6 feet 6 inches; at Tilpa, 7 feet 6 inches; at Wilcannia, 8 feet; at Menindie, 24 feet; at Pooncarie, 23 feet 7 inches; at Wentworth, 11 feet 3 inches. Murrumbidgee: At Gundagai, 6 feet; at Wagga, 9 feet 6 inches; at Hay, 6 feet 9 inches; at Balranald, 2 feet. Murray: At Albury, 1 foot 4 inches; at Euston, 4 feet.

ASTRONOMICAL MEMORANDA FOR FEBRUARY 2.

Sun rises at 5.24, sets at 7.4; Moon, 1.27 p.m.; Mercury, 5.3 a.m., 7.2 p.m.; Venus, 6.31 a.m., 7.53 p.m.; Mars, 6.52 a.m., 8.4 p.m.; Jupiter, 10.49 p.m., 11.59 a.m.; Saturn, 5.27 p.m., 3.25 a.m. Full moon, 8th; new moon, 23rd.

High water at Fort Denison: 1.35 a.m., 2.6 p.m.

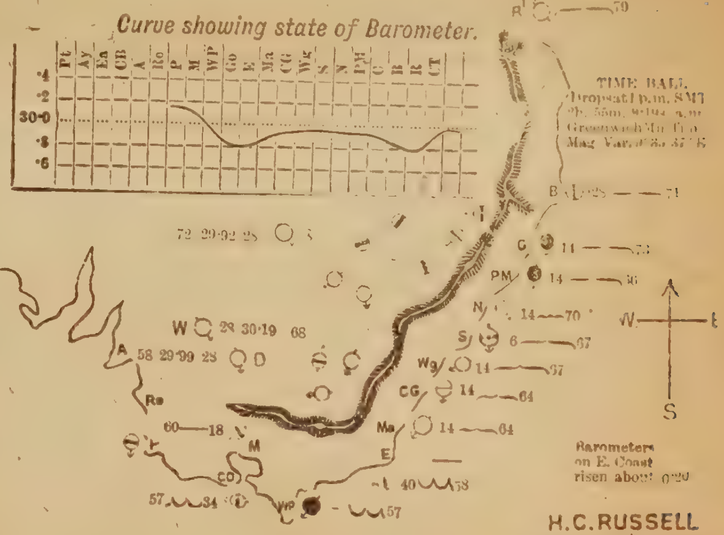
METEOROLOGICAL REPORTS AND MAP FOR FEBRUARY 5, 1887

Stations	wt	Mx	mn	r'in
Albury	b	79	45	0
Armidale	u	82	62	0
Balranald	b	89	45	0
Bathurst	b	77	49	0
Bend'm'r	b	4	61	0
Bodalla	b	81	46	0·04
Bourke	b	87	62	0
Br w rrina	–	–	–	–
Bundarra	b	79	65	0
C'md'n H	r	78	64	1·25
C. St. Geo	c	96	60	0
Carcoar	b	70	41	0
Casino	u	86	71	0·05
Cassilis	o	78	64	0
Clarence	r	92	73	0
C'nd'b'lin	b	86	41	0
Cooma	b	80	37	0
Coonab'n	b	83	53	0
Cowra	b	92	53	0
Deniliq'n	b	83	43	0
Dubbo	b	84	53	0
Eden	–	–	–	–
Euston	b	84	48	0
Forbes	b	92	53	0
Gl'n Inn's	g	82	62	0
Gou'burn	b	78	51	0
Grafton	o	96	75	0
Gulgong	b	80	55	0
Gunned'h	–	–	–	–
Hay	b	78	49	0
Inverell	o	82	61	0
Kiandra	n	75	27	0
Lismore	–	–	–	–
Maitland	c	84	65	0
Marsdens	b	79	52	0
Menindie	b	61	57	0
Molong	b	82	50	0
M'r'ng'r'll	b	79	63	0
Moree	b	86	67	0
Moruya	b	76	54	0
Moss Vale	–	–	–	–
Mt. Hope	b	85	51	0
M. Vict'ria	b	78	49	0
Mudgee	u	86	59	0
M'rr'mb'h	b	82	52	0
M'rr'r'ndi	o	78	66	0
M'sw'lbr'k	g	86	60	0
Narrabri	b	88	66	0
Newcastle	b	78	62	0·08
Orange	b	80	46	0
Picton	c	83	60	0
P. M'q'rie	r	82	64	1·65
P. St'ph'n	c	81	59	0·55
Q'nbeyan	c	74	53	0
Quirindi	b	85	68	0
Singleton	c	70	66	0
SYDNEY	c	79	63	0·02
Tamw'rth	b	82	61	0
Taralga	b	80	57	0
Taree	c	84	66	0·12
T'nt'rfield	u	89	68	0·38
Wagga	b	92	48	0
Walcha	b	71	55	0
Walgett	b	82	59	0
Warrah	b	75	40	0·36
W'ntw'rth	b	80	51	0
W ng'ng	b	80	62	0
Young	b	88	46	0

SYDNEY OBSERVATORY
LATITUDE 33° 51' 41" S. LONGITUDE 10h 4m 50s E.

Average Annual Rainfall for 28 years
Average for 29 years from January 1 to F
Total rainfall from January 1 to Feb.
Barometers corrected to 32° Fah. and Mean Sea Level

Calm; wind N. (?); T. storm; wind S.; wind W.; Smooth sea; Heavy sea; Very heavy sea.



Barometers on E. Coast risen about 0·20

H. C. RUSSELL
GOVERNMENT ASTRONOMER

NOTES EXPLANATORY OF MAP.

In the list of stations the column headed W.T. gives the state of the weather at 9 a.m., b standing for blue sky; c, detached clouds; d, drizzling rain; f, fog; g, gloomy; h, hazy; m, misty; n, frosty; o, overcast; p, passing showers; r, rain; s, snow; t, thunder; u, threatening. The next column, M'x gives the maximum temperature for previous 24 hours. M'n the corresponding minimum temperature; r'n, the rain for the previous 24 hours. The symbols used in the map are explained on the margin. At each coast station the wind symbol is placed like a vane pointing to the direction from which the wind is coming. A clear circle with it means fine weather; a circle with bar, cloudy weather; and a black spot, raining. Next to this symbol are placed figures denoting the number of miles the wind is moving per hour; next, a symbol showing the state of the sea; and, lastly, figures denoting the shade temperature at 9 a.m. The barometer curve shows the state of barometers round the coast from Perth to Cooktown:—Pt, Perth; Ay, Albany; Ea, Eucla; CB, Cape Borda; A, Adelaide; Re, Robe; P, Portland; M, Melbourne; WP, Wilson's Promontory; Go, Gabo; E, Eden; Ma, Moruya; CG Jervis Bay; Wg, Wollongong; S, Sydney; N, Newcastle; PM, Port Macquarie; C, Clarence River; B, Brisbane; R, Rockhampton; Ct, Cooktown. Inland the state of barometer is given in figures at Albury, Deniliquin, Wentworth, Menindie, Bourke, and Alice Springs. The barometer curve enables one at a glance to trace the depressions, beginning with Western Australia, and passing along eastwards; northerly winds preceding them, and southerly following.

Western Australia.—No telegram.

South Australia.—Generally fine, scattered clouds and overcast in places north of Peake; light S. to E. winds, rising barometers, and smooth sea. Extremes of barometers and temperature; M'Donnell Bay, 30.15; Farina, 30.02; Eucla, 68°; and Adelaide, 57°.

Victoria.—Generally overcast and threatening, with strong S. to W. winds, rising barometers, and rough sea. Showery at Wilson's Promontory, fine in north parts. Rainfall: Lakes' Entrance, 0·03, and Melbourne 0·01 inches. Extremes of barometers and temperature: Portland, 30·12; Wilson's Promontory, 29·87; Horsham, 70°; and Ballarat, 55°.

Tasmania.—Generally unsettled, with strong westerly winds, risen barometers, and rough sea. Fierce squalls on S.E. coast. Rainfall: Southport, 0·50, and still showery. Extremes of barometers and temperature: Southport, 29·80 and 50°; Falmouth, 29·76; and Low Heads, 61°.

New Zealand.—Passing showers at Russell, with strong north wind, and barometer 29·9. Heavy rain at Wellington, and very strong N.W. wind. Barometer, 29·4, and rainfall, 0·40 inch. Fine at Bluff, with strong N.W., and barometer 28·7. Very heavy sea on the West Coast, and heavy rain over central parts.

New South Wales.—Generally more or less cloudy; cool and unsettled, with light rain falling in north coast districts; light southerly and easterly winds, risen barometers, and smooth to moderate sea. Rain has fallen along the coast, heaviest between Macleay and Manning Rivers. Extremes of barometers and temperature at 9 a.m.: Wentworth, 30·19; Forbes, 29·81; Walgett, 73°; and Cooma, 52°. Reading of the standard barometer at Sydney, corrected to 32. Fahr., and mean sea level, at 9 a.m., 29·939. Extra stations: Lake Cudgellico, max. 72°, min. 53°, fine, clear, and cool. For further particulars see map.

Queensland.—Generally cloudy and unsettled, with light variable winds and calms. Rainfall: Townsville, 2.20, and still showery; Hughenden, 0·65; Mackay, 116·16; Rockhampton, 0·32; Burketown, 0·17, and still raining steadily; Brisbane, 0·0 inches. Extremes of barometers and temperature: Cooktown 29·90 and 91°; Rockhampton, 29·73; and Brisbane, 71°.

3 P.M. OBSERVATIONS.

Victoria.—Portland, S., 34, fine, smooth sea, temperature 64°; Cape Otway, W.S.W., 36, high sea, temperature 64°; Wilson's Promontory, W.S.W., 36, squally, misty, rough sea, temperature 61°.

New South Wales.—Menindie, S., fine, clear, temperature 70°; Wentworth, S., fine, cool, temperature 68°; Deniliquin, S.W., fine, temperature 74°; Eden, S.W., fine, smooth sea, temperature 67°, Moruya, S.E., 28, fine, smooth sea, temperature 73°; Cape St. George, S.E., 14, fine, moderate sea, temperature 69°; Sydney, E.N.E., 10, fine, smooth sea, temperature 70°; Newcastle, S.E., 10, fine, smooth sea, temperature 71°; Port Macquarie, S., 28, cloudy, smooth sea, temperature 75°; Walgett, calm, fine, temperature 85°; Dubbo, calm, fine, temperature 75°; Goulburn, calm, fine, temperature 70°.

HEIGHT OF RIVERS ABOVE SUMMER LEVEL.

Macintyre: At Mungindi, 23 feet. Barwon: At Mogil Mogil, 14 feet 6 inches; at Walgett, 17 feet. Namoi: At Walgett, 12 feet. Culgoa: At Goodooga, 4 feet 8 inches. Darling: At Brewarrina, 4 feet 8 inches; at Bourke, 4 feet 7 inches; at Louth, 9 feet 5 inches; at Tilpa, 6 feet 5 inches; at Wilcannia, 7 feet 6 inches; at Menindie, 6 feet 3 inches; at Pooncarie, 23 feet 4 inches; at Wentworth, 11 feet. Murrumbidgee: At Gundagai, 5 feet 6 inches; at Wagga, 6 feet; at Hay, 10 feet 6 inches; at Balranald, 3 feet 10 inches. Murray: At Albury, 1 foot; at Euston, 3 feet.

ASTRONOMICAL MEMORANDA FOR FEBRUARY 7.

Sun rises at 5.29, sets at 6.59; Moon, 6.11 p.m., 3.38 a.m.; Mercury, 5.23 a.m., 7.7 p.m.; Venus, 6.41 a.m., 7.51 p.m; Mars, 6.51 a.m., 7.55 p.m.; Jupiter, 10.30 p.m., 11.40 a.m.; Saturn, 5.6 p.m., 3.2 a.m. Full moon, 8th; new moon, 23rd.

High water at Fort Denison, February 7: 7.17 a.m., 7.43 p.m.

METEOROLOGICAL REPORTS AND MAP FOR FEBRUARY 8, 188[illegible]

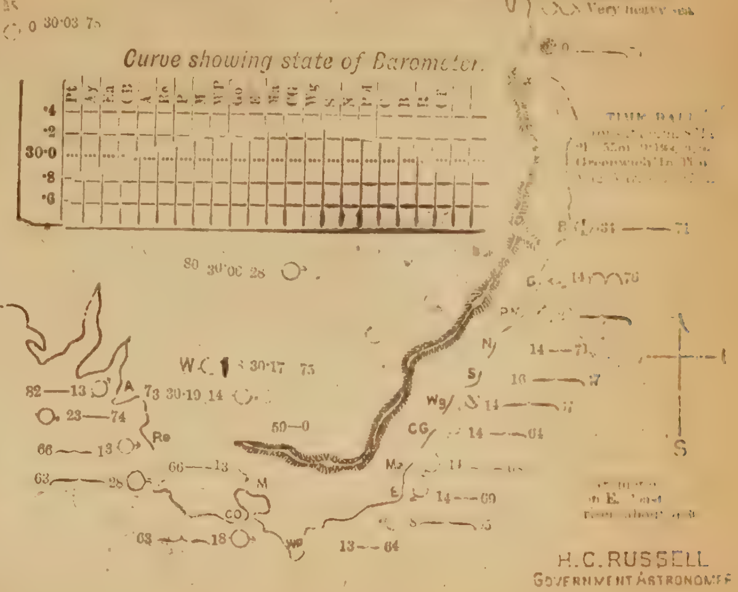
Stations	wt	Mx	mn	r'in
Albury	b	88	50	0
Armidale	r	85	57	0·03
Balranald	b	97	52	0
Bathurst	b	82	52	0
Bend'm'r	u	81	57	0
Bodalla ..	b	—	—	0
Bourke ..	b	97	73	0
Br'w rrina	-	—	—	-
Bundarra	b	84	64	0·15
C'md'n H	c	77	66	1·10
C.St.Geo	c	93	58	0
Carcoar ..	b	73	46	0
Casino ..	b	77	64	0·17
Cassilis ..	o	74	62	0
Clarence	u	78	71	0
C'nd'b'lin	b	87	45	0
Cooma ..	b	75	44	0
Coonab'n	b	87	56	0
Cowra ..	b	92	54	0
Deniliq'n	b	93	45	0
Dubbo ..	b	88	58	0
Eden	b	73	67	0
Euston ..	b	92	54	0
Forbes ..	b	—	58	0
Gl'n Inn's	u	80	59	0
Goulburn	b	80	50	0

Grafton ..	r	78	66	0·20
Gulgong	b	79	53	0
Gunned'h	b	88	64	0
Hay	b	84	58	0
Inverell ..	b	81	60	0
Kiandra	b	79	31	0
Lismore	c	76	68	0·27
Maitland	b	85	60	0
Marsdens	b	90	68	0
Menindie	b	76	64	0
Molong ..	b	86	55	0
M'r'ng'r'll	b	80	61	0
Moree ..	b	93	67	0·59
Moruya ..	b	70	56	0
Moss Vale	b	72	52	0
Mt. Hope	b	91	62	0
M. Vict'ria	b	82	49	0·10

Mudgee	g	88	52	0
M rr'mb'h	b	82	59	0
M'rr'r'ndi	g	74	65	0
M us'lbr'k	b	80	59	0
Narrabri	b	91	64	0
ewcastle	b	74	67	0
Orange ..	b	75	50	0
[illegible]cton ..	b	90	55	0
P. M'q'rie	b	78	63	0·60
P. St'ph'n	b	81	60	0
Q'nbeyan	b	73	54	0
Quirindi	b	86	65	0
Singleton	b	82	65	0
SYDNEY ..	c	71	62	0
Tamw'rth	b	84	51	0
Taralga ..	b	86	55	0
Taree ..	b	77	65	0·08
T'nt'rfield	r	75	59	0·08
Wagga ..	b	83	52	0
Walcha ..	u	67	50	0·28
Walgett ..	-	—	—	-
Warrah ..	b	85	45	0
W'ntw'rth	b	90	61	0
W'll'ng'ng	c	69	60	0
Young ..	b	91	53	0

SYDNEY OBSERVATORY.
LATITUDE 33° 51' 41" S. LONGITUDE 10h. 4m. [illegible]

Average Annual Rainfall for 28 years .... 4[illegible]
Average for 29 years from January 1st to 31st ... 3·619
Total Rainfall from January 1 to Feb. 7, 1887 ......
Barometers corrected to 32° Fah. and Mean sea level.



NOTES EXPLANATORY OF MAP.

In the list of stations the column headed W.T. gives the state of the weather at 9 a.m., b standing for blue sky; c. detached clouds; d. drizzling rain; f. fog; g. gloomy; h. hazy; m. misty; n. frosty; o. overcast; p. passing showers; r. rain; s. snow; t. thunder; u. threatening. The next column, M'x gives the maximum temperature for previous 24 hours. M'n the corresponding minimum temperature; r'n. the rain for the previous 24 hours. The symbols used in the map are explained on the margin. At each coast station the wind symbol is placed like a vane pointing to the direction from which the wind is coming. A clear circle with it means fine weather; a circle with ... cloudy weather; and a black spot, raining. Next to this symbol are placed figures denoting the number of miles the wind is moving per hour ... of the sea; and, lastly, figures denoting the ... The barometer curve shows the state of barometers round the coast from Perth to Cooktown ... Perth; Ay. Albany; Fa. Eucla; C.B. Cape Borda; A. Adelaide; ... P. Portland; M. Melbourne; W.P. Wilson's Promontory; Go. Gabo; E. Eden; Ma. Moruya; ... Bay; Wg. Wollongong; S. Sydney; N. Newcastle; P.M. Port Macquarie; C. Clarence River; B. Brisbane; R. Rockhampton; Ct. Cooktown. ... is given in figures at Albury, Deniliquin, Wentworth, ... Springs. The barometer curve enables one at a glance to trace the depressions, beginning with Western Australia, and passing along eastwards; northerly winds ... ceding them, and southerly following.

Western Australia.—Generally fine, cloudy in S.W. parts, with light variable winds, fallen barometers, and smooth sea. Sultry and warm in south. Extremes of barometers and temperature: Geraldton, 29·94; Cossack, 29·68; Ashburton, 82°; and Esperance Bay, 68°.

South Australia.—Generally fine and warm, scattered clouds north of Burra and on parts of the coast; light N.E. to S.E. winds, falling barometers, and smooth sea. Rainfall: Daly Waters, 2·55; Port Darwin, 1·30; and Yam Creek, 0·68 inches. Extremes of barometers and temperature: M'Donnell Bay, 30·09 and 61°; Eucla, 29·88; and Adelaide, 82°. In Northern Territory: Daly Waters, 29·97 and 77°; Port Darwin, 29·67 and 81°.

Victoria.—Generally fine, with light S. to E. winds, risen barometers, and smooth sea. Extremes of barometers and temperature: Melbourne 30·20; Ballarat, 30·05; Horsham, 74°; and Hamilton, 61.

Tasmania.—Generally fine, with light N. to E. winds, risen barometers, and smooth sea. Extremes of barometers and temperature: Southport, 30·24 and 60°; Hobart, 30·19; and in N.E. parts, 64.

New Zealand.—Generally fine, with N.W. to S.W. winds. Showery on the W. coast. Barometers: Russell and Wellington, 30·0; Bluff, 29·9.

New South Wales.—Generally fine and cool, with clouds in places on the coast, and light rain on the ranges in north; light S. to E. winds, high and rising barometers, and smooth to moderate sea. Light rain has fallen in N.E. parts, heaviest at Camden Haven. Extremes of barometers and temperature at 9 a.m.: Wollongong, 30·26; Bourke, 30·06 and 82°; Cooma and Mount Victoria, 55°. Reading of the standard barometer at Sydney, corrected to 32° Fahr., and mean sea level, at 9 a.m., 30·244. Extra stations: Lake Cudgellico, max. 73°, min. 64°, clear and cool. For further particulars see map.

Queensland.—Generally cloudy and unsettled. Raining on the coast between Rockhampton and Townsville. Chiefly easterly winds and calms; sea smooth. Rainfall: Mackay, 2·05; Brisbane, 0·44; Townsville, 1·30; and Rockhampton, 0·0[illegible] inches. Extremes of barometers and temperature: Brisbane, 30·09; Cooktown, 29·85 and 94°; Cape Moreton, 71°.

3 P.M. OBSERVATIONS.

Victoria.—Portland, E.S.E., 18, fine, smooth sea, temperature 60°; Cape Otway, E., 36, fine, smooth, temperature [illegible]; Melbourne, S., 12, fine, temperature 86°; Cape Schanck, E., 12, fine, smooth sea, temperature 67°; Wilson's Promontory, N.E., 18, cloudy, smooth sea, temperature 69°; Lakes Entrance, [illegible] fine, temperature 73°.

New South Wales.—Menindie, E., 14, fine, temperature [illegible]; Wentworth, N.E., fine, temperature 78°; Deniliquin, 23, S.E., fine and warm, temperature 84°; Eden, N.E., 14, fine, smooth sea, temperature 69°; Moruya, N.E., 14, fine, smooth sea, temperature 77°; Cape St. George, S.E., 14, fine, smooth sea, temperature [illegible]; Sydney, S.E., 14, fine, smooth sea, temperature 70°; Newcastle, S.S.E., fine, smooth sea, temperature 72°; Port Macquarie, S., 28, showery, smooth sea, temperature 76°; Clarence River, S., 14, cloudy, moderate sea, temperature 77°; Dubbo, N.E., 14, [illegible], temperature 75°; Goulburn, E., dull, temperature 70°.

HEIGHT OF RIVERS ABOVE SUMMER LEVEL.

Macintyre: At Mungindi, 25 feet. Barwon: At Mogil Mogil, 18 feet; at Walgett, 22 feet. Namoi: At Walgett, 14 feet. [illegible] At Goodooga, 4 feet 8 inches. Darling: At Brewarrina, [illegible] inches; at Bourke, 12 feet 9 inches; at Louth, 7 feet; at Tilpa, 8 feet; at Wilcannia, 9 feet 6 inches; at Menindie 22 feet [illegible] inches; at Pooncarie, 23 feet 5 inches; at Wentworth, 10 feet 1 inch. Murrumbidgee: At Gundagai, 5 feet; at Wagga, [illegible] feet 6 inches; at Hay, 13 feet 6 inches; at Balranald, 9 feet 9 inches. Murray: At Albury, 1 foot; at Euston, 2 feet 6 inches.

ASTRONOMICAL MEMORANDA FOR FEBRUARY 8.

Sun rises at 5.30, sets at 6.58; Moon, 7.2 p.m., 4.37 a.m.; Mercury, 5.28 a.m., 7.8 p.m.; Venus, 6.43 a.m., 7.51 p.m.; Mars, 6.51 a.m., 7.53 p.m.; Jupiter, 10.26 p.m., 11.36 a.m.; Saturn, 5.2 p.m., 2.58 a.m. Full moon, 8th; new moon, 23rd.

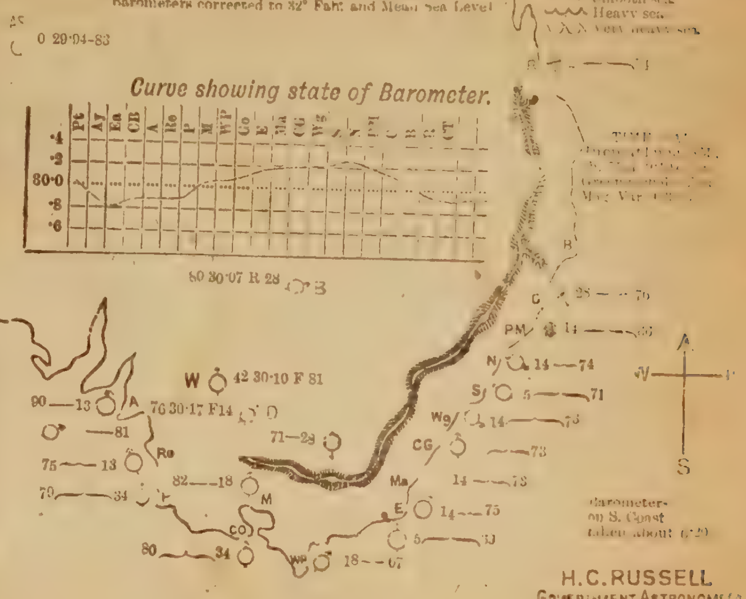
High water at Fort Denison, February 8: 8.0 a.m., 8.33 p.m.

METEOROLOGICAL REPORTS AND MAP FOR FEBRUARY 8, 1887.

Stations	wt	Mx	Mn	R'fn
Albury	b	92	53	0·04
Armidale	d	80	56	0·06
Balranald	b	104	62	0
Bathurst	b	78	51	0
Bend'm'r	u	72	52	0
Bodalla	b	82	52	0
Bourke	b	97	73	0
Brewarrina	-	—	—	-
Bundarra	b	81	61	0
C'md'n H	b	72	67	0
C. St. Geo	b	78	59	0
Carcoar	b	70	46	0
Casino	b	80	59	0·08
Cassilis	b	74	63	0
Clarence	c	79	71	0
C'nd'b'lin	b	87	49	0
Cooma	b	81	47	0
Coonab'n	b	82	56	0
Cowra	b	93	64	0
Deniliq'n	b	99	57	0
Dubbo	b	85	59	0
Eden	b	77	55	0
Euston	b	101	68	0
Forbes	b	—	60	0
Gl'n Inn's	g	78	54	0
Goulburn	b	76	52	0
Grafton	b	79	64	0·14
Gulgong	b	77	53	0
Gunned'h	b	86	63	0
Hay	b	90	65	0
Inverell	b	80	59	0
Kiandra	b	75	35	0
Lismore	c	80	71	0·01
Maitland	b	79	62	0
Marsdens	b	87	67	0
Menindie	b	81	76	0
Molong	b	80	53	0
M'r'ng'r'll	b	80	62	0
Moree	b	96	66	0
Moruya	b	76	58	0
Moss Vale	b	68	53	0
Mt. Hope	b	90	64	0
M. Vict'ria	b	72	41	0
Mudgee	b	88	53	0
M'rr'mb'h	b	82	60	0
M'rr'r'ndi	b	75	61	0
M'us'lbr'k	b	80	57	0
Narrabri	b	85	63	0
Newcastle	b	79	70	0
Orange	b	76	51	0
Picton	c	75	50	0
P. M'q'rie	p	77	64	1·04
P. St'ph'n	b	77	56	0·18
Q'nbeyan	b	72	54	0
Quirindi	b	82	68	0
Singleton	b	80	64	0
SYDNEY	b	73	63	0·01
Tamw'rth	-	—	—	-
Taralga	b	86	53	0
Taree	b	78	63	0·02
T'nt'rfield	g	75	62	0·07
Wagga	b	87	60	0
Walcha	d	65	49	0
Walgett	b	91	66	0
Warrah	b	80	53	0
W'ntw'rth	b	97	73	0
W'll'ng'ng	b	78	62	0
Young	b	86	57	0

SYDNEY OBSERVATORY.
LATITUDE 33° 51' 41" S. LONGITUDE 10h. 4m. ... E.

Average Annual Rainfall for 28 years ...
Average for 29 years from January 1st to ...
Total Rainfall from January 1 to Feb. 8, 1887 ...
Barometers corrected to 32° Fahr. and Mean Sea Level



H. C. RUSSELL
GOVERNMENT ASTRONOMER.

NOTES EXPLANATORY OF MAP.

In the list of stations the column headed W.T. gives the state of the weather at 9 a.m., b standing for blue sky; c, detached clouds; d, drizzling rain; f, fog; g, gloomy; h, hazy; m, misty; n, frosty; o, overcast; p, passing showers; r, rain; s, snow; t, thunder; u, threatening. The next column, M'x gives the maximum temperature for previous 24 hours. M'n the corresponding minimum temperature; r'n, the rain for the previous 24 hours. The symbols used in the map are explained on the margin. At each coast station the wind symbol is placed like a vane pointing to the direction from which the wind is coming. A clear circle with it means fine weather; a circle with bar, cloudy weather; and a black spot, raining. Next to this symbol are placed figures denoting the number of miles the wind is moving per hour; next, a symbol showing the state of the sea; and, lastly, figures denoting the shade temperature at 9 a.m. The barometer curve shows the state of barometers round the coast from Perth to Cooktown:—Pt, Perth; Ay, Albany; Ea, Eucla; CB, Cape Borda; A, Adelaide; Ro, Robe; P, Portland; M, Melbourne; W P, Wilson's Promontory, Go, Gabo; E, Eden; Ma, Moruya; C, Jervis Bay; Wg, Wollongong; S, Sydney; N, Newcastle; P M, Port Macquarie; C, Clarence River; B, Brisbane; R, Rockhampton; Ct, Cooktown. Inland the state of barometer is given in figures at Albury, Deniliquin, Wentworth, Menindie, Bourke, and Alice Springs. The barometer curve enables one at a glance to trace the depressions beginning with Western Australia, and passing along eastwards; northerly winds preceding them, and southerly following.

Western Australia.—Cloudy at Geraldton, Carnarvon, and Esperance Bay, threatening at the two last named places; strong wind generally between S.W. and S.E., blowing strong. The barometer has fallen 0·11 since yesterday at Perth.

South Australia.—Fine generally and hot, with the wind from N.E. to the N.W., and smooth and moderate sea on coast. The barometer has fallen since yesterday about 0·16. Rainfall: At Port Darwin, 3·40 inches; 0·64 at Yam Creek; and 0·10 at Daly Waters.

Victoria.—Fine weather throughout and hot, strong wind generally between N. and E., with smooth and moderate sea on coast; hot wind blowing at Cape Otway. The barometer has fallen about 0·20.

Tasmania.—Fine, but cloudy at Falmouth, Circular Head, and Hobart; fresh and strong breeze generally from N.E. to N.W.; hazy at Hobart this morning, and sea dead calm at Falmouth.

New Zealand.—Russell: Barometer 30·0, wind S.W., and fine. Wellington: 30·0, S.E., force 28 miles, showery. Bluff, 30·2, N.W., fine.

New South Wales.—Fine generally throughout the colony, some cloudy weather to the N., with showery weather at Port Macquarie, and drizzling rain at Armidale and Walcha; wind chiefly between S.E. and W., and light, with smooth and moderate sea down the coast. The barometer has fallen about ·06 since yesterday. Additional stations: Gabo Island, N., strong, fine; Coonamble, calm, fine; Hill End, calm, fine, clear; Wilcannia, calm, fine, and clear; Lake Cudgellico, E wind, max. 75°, min. 65°, fine.

Queensland.—Cloudy, generally showery at Burketown and Mackay, and stormy at Normanton and Burketown; wind chiefly S.E. to N.E.; sea moderate at Townsville. Rainfall: At Townsville, 0·21; Cooktown, 0·05; Normanton, 0·07; and at Mackay, 0·31.

3 P.M. OBSERVATIONS.

Victoria.—Cape Otway, E.S.E., 13, fine, hot wind, very smooth sea, temperature 87°; Melbourne, N.N.E., 13, fine, temperature 92°; Cape Schanck, N.N.W., 23, fine, slight sea, temperature 73°; Wilson's Promontory, N.E., 18, foggy, moderate sea, temperature 74°; Lake Entrance, N.E., 13, fine, hazy, temperature 77°.

New South Wales.—Menindie, E., fine, temperature 86°; Wentworth, N., fine, temperature 83°; Deniliquin, N.E., fine, clear, warm, temperature 87°; Eden, N.E., 28, fine, smooth sea, temperature 73°; Moruya, N.E., 42, fresh, fine, moderate sea, temperature 76°; Cape St. George, N., 28, fine, smooth sea, temperature 73°; Sydney, E., fresh, fine, moderate sea, temperature 74°; Newcastle, S.E., light, no sea, temperature 73°; Port Macquarie, E.S.E., 14, fine, smooth sea, temperature 77°; Clarence River, S.E., fresh, fine, moderate sea, temperature 76°; Walgett, N.E., cloudy, temperature 84°; Dubbo, N.E., 14, fine, temperature 76°; Goulburn, N.E., light, fine, temperature 71°.

HEIGHT OF RIVERS ABOVE SUMMER LEVEL.

Macintyre: At Mungindi, 19 feet, rising. Barwon: At Mogil Mogil, 26 feet, steady; at Walgett, 24 feet, rising. Namoi: At Walgett, 16 feet, rising. Culgoa: At Goodooga, 4 feet, falling. Darling: At Brewarrina, 8 feet, rising; at Bourke, 14 feet, rising; at Louth, 7 feet 6 inches, rising; at Tilpa, 8 feet 4 inches, rising; at Wilcannia, 10 feet, rising; at Menindie, 22 feet 2 inches; at Pooncarie, 23 feet 5 inches; at Wentworth, 10 feet 9 inches. Murrumbidgee: At Gundagai, 5 feet, falling; at Wagga, 5 feet; at Hay, 12 feet, rising; at Balranald, 9 feet 11 inches. Murray: At Albury, 1 foot; at Euston, 2 feet 10 inches.

ASTRONOMICAL MEMORANDA FOR FEBRUARY 9.

Sun rises at 5.31, sets at 6.58; Moon, 7.48 p.m., 5.44 a.m.; Mercury, 5.33 a.m., 7.9 p.m.; Venus, 6.45 a.m., 7.50 p.m.; Mars, 6.51 a.m., 7.51 p.m.; Jupiter, 10.22 p.m., 11.32 a.m.; Saturn, 4.58 p.m., 2.54 a.m. Full moon, 8th; new moon, 23rd.

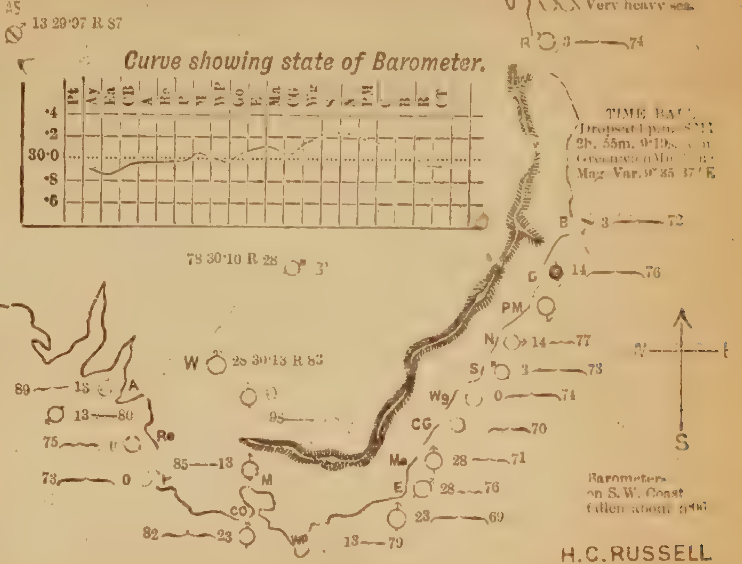
High water at Fort Denison, February 9: 8.57 a.m., 9.19 p.m.

METEOROLOGICAL REPORTS AND MAP FOR FEBRUARY 9, 1887.

Stations	wt	Mx	Mn	R'n
Albury	b	92	60	0
Armidale	d	68	57	0.12
Balranald	b	107	65	0
Bathurst	b	86	52	0
Bend'm'r	b	76	52	0
Bodalla	b	80	55	0
Bourke	b	96	66	0
Br'w rrina	–	—	—	–
Bundarra	b	79	62	0
C'md'n H	b	74	64	0
C.St.Geo	b	76	60	0
Carcoar	b	70	46	0
Casino	b	83	60	0
Cassilis	b	76	61	0
Clarence	p	84	71	0
C'nd'b'lin	b	93	52	0
Cooma	b	85	49	0
Coonab'n	b	81	56	0
Cowra	b	93	65	0
Deniliq'n	b	100	60	0
Dubbo	b	88	63	0
Eden	b	77	64	0
Euston	b	104	70	0
Forbes	b	—	59	0
Gl'n Inn's	b	78	53	0
Goulburn	b	84	49	0
Grafton	u	70	66	0.10
Gulgong	b	78	54	0
Gunned'h	b	87	63	0
Hay	b	92	66	0
Inverell	b	77	60	0
Kiandra	b	81	38	0
Lismore	c	79	64	0.03
Maitland	b	84	61	0
Marsdens	b	86	70	0
Menindie	b	85	74	0
Molong	b	88	54	0
M'r'ng'r'll	b	84	61	0
Moree	b	90	68	0
Moruya	b	78	60	0
Moss Vale	b	75	57	0
Mt. Hope	b	92	66	0
M.Vict'ria	b	80	50	0
Mudgee	b	85	54	0
M rr'mb'h	b	85	59	0
M'rr'r'ndi	b	76	60	0
Mus'lbr'k	b	83	52	0
Narrabri	b	85	66	0
ewcastle	b	80	67	0
Orange	b	76	52	0
Ii ton	f	80	52	0
P M'q'rie	b	79	62	0.14
P St'ph'n	b	79	58	0
Q'nbeyan	b	70	60	0
Quirindi	b	85	62	0
Singleton	b	81	64	0
SYDNEY	b	77	64	0
Tamw'rth	–	—	—	–
Taralga	b	85	56	0
Taree	–	—	—	–
T'nt'rfield	b	75	62	0
Wagga	b	90	60	0
Walcha	p	66	47	0.04
Walgett	b	91	64	0
Warrah	b	80	70	0
W'ntw'rth	b	101	73	0
W'll'ng'ng	b	82	62	0
Young	b	90	56	0

SYDNEY OBSERVATORY.
LATITUDE 33° 51' 41" S. LONGITUDE 10h. 4m. 50·8s. E.

Average Annual Rainfall for 28 years...... .49·489
Average for 29 years from January 1 to 31, 1887......3·019
Total Rainfall from January 1 to Feb. 9, 1887 ....7·704
Barometers corrected to 32° Fah. and Mean Sea Level



H. C. RUSSELL
GOVERNMENT ASTRONOMER

NOTES EXPLANATORY OF MAP.

In the list of stations the column headed W.T. gives the state of the weather at 9 a.m., b standing for blue sky; c, detached clouds; d, drizzling rain; f, fog; g, gloomy; h, hazy; m, misty; n, frosty; o, overcast; p, passing showers; r, rain; s, snow; t, thunder; u, threatening. The next column, M'x gives the maximum temperature for previous 24 hours. M'n the corresponding minimum temperature; R'n, the rain for the previous 24 hours. The symbols used in the map are explained on the margin. At each coast station the wind symbol is placed like a vane pointing to the direction from which the wind is coming. A clear circle with it means fine weather; a circle with bar, cloudy weather; and a black spot, raining. Next to this symbol are placed figures denoting the number of miles the wind is moving per hour; next, a symbol showing the state of the sea; and, lastly, figures denoting the shade temperature at 9 a.m. The barometer curve shows the state of barometers round the coast from Perth to Cooktown:—Pt, Perth; Ay, Albany; Ea, Eucla; CB, Cape Borda; A, Adelaide; Re, Robe; P, Portland; M, Melbourne; WP, Wilson's Promontory; Co, Gabo; E, Eden; Ma, Moruya; CG, Jervis Bay; Wg, Wollongong; S, Sydney; N, Newcastle; PM, Port Macquarie; C, Clarence River; B, Brisbane; R, Rockhampton; Ct, Cooktown. Inland the state of barometer is given in figures at Albury, Deniliquin, Wentworth, Menindie, Bourke, and Alice Springs. The barometer curve enables one at a glance to trace the depressions, beginning with Western Australia, and passing along eastwards; northerly winds preceding them, and southerly following.

Western Australia.—Overcast and gloomy at Albany, and fine at Geraldton and Esperance Bay; 0·23 rain at Geraldton, with strong N.E. breeze; smooth sea on coast.

South Australia.—Cloudy to the north of Alice Springs, with N.W. wind. Some rain fell also in that locality, viz.: Port Darwin, 1·72 inches; Yam Creek, 0·10; Tennant's Creek, 0·03; and Peak, 0·03. Generally fine and hot elsewhere, with light variable wind. The barometer has risen about 0·06 since yesterday. Smooth sea on the coast.

Victoria.—Fine weather throughout, with fresh northerly wind blowing; hot at Cape Schanck, Wilson's Promontory, and Cape Otway. Rainfall: At Horsham, 0·09; Cape Otway, 0·12; and Hamilton, 0·03. Sea very smooth at Cape Otway.

Tasmania.—Fresh S.E. to N.N.E. wind, sultry at Falmouth, also sea dead calm, hazy at Low Head and Hobart.

New Zealand.—Russell, barometer 30·1, wind S.W., and fine; Wellington, 30·1, S.E., fine; Bluff, 30·3, N.E., fine. Strong wind in squalls from S. and S.E. on the N.W. and N.E. coast.

New South Wales.—Fine generally; still cloudy to the north-eastward of dividing range; showery at Clarence Heads and Walcha, and drizzling at Armidale; wind between S.E. and N., and light; the barometers since yesterday have shown a slight fall; moderate sea at Clarence Heads. Additional stations: Coonamble, calm, fine; Hill End, calm, fine, clear; Wilcannia, calm, fine; Lake Cudgellico, fine, clear, max. 78°, min. 67°.

Queensland.—Cloudy weather at Cape Moreton, with rather rough sea, and showery at Cooktown, wind generally light and between S.E. and N.E. Rainfall: At Cape Moreton, 0·08; Brisbane, 0·02; Cooktown, 1·30.

3 P.M. OBSERVATIONS.

Victoria.—Portland, S., 28, fine, smooth sea, temperature 97°; Melbourne, N.E., 8, fine, temperature 97°; Cape Schanck, E., 8, very fine, smoke haze, smooth sea, temperature 77°; Wilson's Promontory, N.N.E., 13, sultry, smoke haze, slight sea, temperature 89°; Lake Entrance, E., 18, sultry, haze, temperature 80°.

New South Wales.—Menindie, E.N.E., 28, fine, temperature 87°; Wentworth, N., fine; Deniliquin, calm, fine, temperature 92°; Eden, N.E., 14, fine, smooth sea, temperature 76°; Moruya, N.E., 28, fine, moderate sea, temperature 79°; Cape St. George, N.E., 28, fine, smooth sea, temperature 75°; Sydney, N.E., light, fine, clear, smooth sea, temperature 75°; Newcastle, E., light, fine, smooth sea, temperature 75°; Port Macquarie, S., 14, fine, smooth sea, temperature 84°; Clarence River, S.E., fresh, showery, moderate sea, temperature 76°; Walgett, E., cloudy, temperature 84°; Dubbo, E., 14, cloudy, temperature 78°; Goulburn, calm, fine, temperature 70°.

HEIGHT OF RIVERS ABOVE SUMMER LEVEL.

Macintyre: At Mungindi, 20 feet 6 inches, rising. Barwon: At Mogil Mogil, 20 feet, rising; at Walgett, 25 feet 6 inches, rising. Namoi: At Walgett, 18 feet, rising. Culgoa: At Goodooga, 3 feet 6 inches, falling. Darling: At Brewarrina, 9 feet 1 inch, rising; at Bourke, 15 feet 5 inches, rising; at Louth, 8 feet, rising; at Tilpa, 9 feet 2 inches, rising; at Wilcannia, 10 feet 2 inches, rising; at Menindie, 21 feet 8 inches; at Pooncarie, 23 feet 5 inches; at Wentworth, 10 feet 8 inches. Murrumbidgee: At Gundagai, 5 feet, falling; at Wagga, 4 feet 6 inches; at Hay, 12 feet 9 inches; at Balranald, 10 feet 8 inches. Murray: At Albury, 1 foot; at Euston, 2 feet 11 inches.

ASTRONOMICAL MEMORANDA FOR FEBRUARY 10.

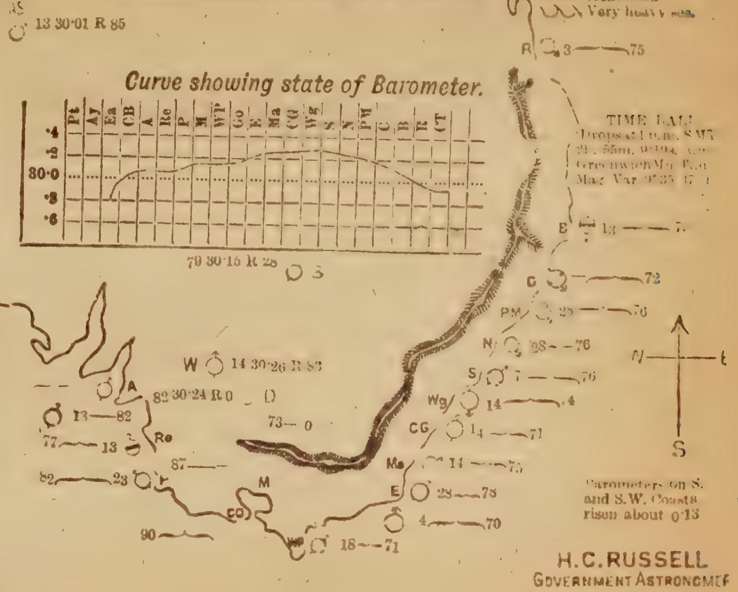
Sun rises at 5.32, sets at 6.57; Moon, 8.30 p.m., 6.54 a.m.; Mercury, 5.37 a.m., 7.11 p.m.; Venus, 6.47 a.m., 7.50 p.m.; Mars, 6.51 a.m., 7.49 p.m.; Jupiter, 10.18 p.m., 11.28 a.m.; Saturn, 4.54 p.m., 2.50 a.m. Full moon, 8th; new moon, 23rd.
High water at Fort Denison, February 10: 9.41 a.m., 10.2 p.m.

METEOROLOGICAL REPORTS AND MAP FOR FEBRUARY 10, 1887.

Stations	wt	Mx	Mn	R'in
Albury	b	95	64	0
Armidale	d	75	56	0·01
Balranald	b	102	64	0
Bathurst	g	86	53	0
Bend'm'r	u	82	54	0·01
Bodalla	b	87	55	0
Bourke	b	95	69	0
Br'w'rrina	–	–	–	–
Bundarra	g	79	60	0
C'md'n H	c	80	69	0
C.St.Geo	b	77	64	0
Carcoar	b	65	49	0
Casino	c	81	61	0
Cassilis	c	77	61	0
Clarence	c	84	64	0
C'nd'b'lin	b	95	51	0
Cooma	b	89	48	0
Coonab'n	b	88	60	0
Cowra	b	96	65	0
Deniliq'n	b	105	61	0
Dubbo	b	88	58	0
Eden	b	78	65	0
Euston	b	107	64	0
Forbes	b	—	58	0
Gl'n Inn's	d	80	56	0
Goulburn	b	85	53	0
Grafton	u	78	66	0·10
Gulgong	b	80	55	0
Gunned'h	b	81	65	0
Hay	b	99	75	0
Inverell	b	79	59	0
Kiandra	b	80	41	0
Lismore	p	81	66	0·12
Maitland	b	85	65	0
Marsdens	b	88	69	0
Menindie	b	91	70	0
Molong	b	90	55	0
M'r'ng'r'll	b	85	65	0
Moree	b	90	68	0
Moruya	b	83	60	0
Moss Vale	b	77	59	0
Mt. Hope	b	96	68	0
M. Vict'ria	o	81	49	0
Mudgee	b	90	55	0
M rr'mb'h	b	84	62	0
M'rr'r'ndi	c	77	62	0
M us'lbr'k	b	86	52	0
Narrabri	b	88	62	0
Newcastle	b	80	70	0·01
Orange	c	76	53	0
Picton	b	82	52	0
P. M'q'rie	c	81	63	0·18
P. St'ph'n	b	81	66	0
Q'nbeyan	b	79	61	0
Quirindi	b	95	62	0
Singleton	b	80	61	0
SYDNEY	b	78	65	0
Tamw'rth	–	—	—	–
Taralga	b	83	56	0
Taree	g	82	66	0·03
T'nt'rfield	o	74	61	0·34
Wagga	b	94	66	0
Walcha	u	71	47	0
Walgett	b	92	63	0
Warrah	c	85	73	0
W'ntw'rth	b	102	74	0
W'll'ng'ng	b	84	64	0
Young	b	96	57	0

SYDNEY OBSERVATORY.
LATITUDE 33° 51' 41" S LONGITUDE 10h. 4m. 50·8s. E

Average Annual Rainfall for 28 years...... 49·489
Average for 29 years from January 1 to 31, 1887 3·019
Total Rainfall from January 1 to Feb. 10, 1887 7·705
Barometers corrected to 32° Fah. and Mean Sea Level



H. C. RUSSELL
GOVERNMENT ASTRONOMER

NOTES EXPLANATORY OF MAP.

In the list of stations the column headed W.T. gives the state of the weather at 9 a.m., b standing for blue sky; c, detached clouds; d, drizzling rain; f, fog; g, gloomy; h, hazy; m, misty; n, frosty; o, overcast; p, passing showers; r, rain; s, snow; t, thunder; u, threatening. The next column, M'x gives the maximum temperature for previous 24 hours. M'n the corresponding minimum temperature; r'n, the rain for the previous 24 hours. The symbols used in the map are explained on the margin. At each coast station the wind symbol is placed like a vane pointing to the direction from which the wind is coming. A clear circle with it means fine weather; a circle with bar, cloudy weather; and a black spot, raining. Next to this symbol are placed figures denoting the number of miles the wind is moving per hour; next, a symbol showing the state of the sea; and, lastly, figures denoting the shade temperature at 9 a.m. The barometer curve shows the state of barometers round the coast from Perth to Cooktown:—Pt, Perth; Ay, Albany; Ea, Eucla; CB, Cape Borda; A, Adelaide; Re, Robe; P, Portland; M, Melbourne; WP, Wilson's Promontory; Go, Gabo; E, Eden; Ma, Moruya; CG Jervis Bay; Wg, Wollongong; S, Sydney; N, Newcastle; PM, Port Macquarie; C, Clarence River; B, Brisbane; R, Rockhampton; Ct, Cooktown. Inland the state of barometer is given in figures at Albury, Deniliquin, Wentworth, Menindie, Bourke, and Alice Springs. The barometer curve enables one at a glance to trace the depressions, beginning with Western Australia, and passing along eastwards; northerly winds preceding them, and southerly following.

South Australia.—Fine generally and hot, overcast to the north of Alice Springs, with N.E. and N. winds, the force being 2 to 4; throughout the colony the wind is chiefly between N.E. and N.W. At Eucla the temperature at 9 a.m. was 100 in the shade; sea moderate at Robe. The barometer has risen about 13· since yesterday. Rainfall: At Daly Waters, 0·30; Alice Springs, 0·08; Yam Creek, 0·73; Tennant's Creek, 0·17; Adelaide, 0·41; Maitland, 0·40; Port Wakefield, 0·21; Port Elliot, 0·24; Mallala, 0·42.

Victoria.—Generally fine, with N.E. to N.W. wind, and rising barometer, the rise since yesterday being about 13·; hot wind blowing at Cape Otway, and smoky haze at Melbourne, Portland, Cape Otway, Wilson's Promontory, Lakes Entrance, and Omeo. Very smooth sea at Cape Otway; also 1·22of rain recorded there this morning.

New Zealand.—Russell, barometer 30·2; wind S.E., gloomy; Wellington, 30·1, S.E., fine; Bluff, 30·3, S.E., fine.

New South Wales.—The weather is still cloudy to the north, on the east side of the range the same as it was yesterday. Showery at Lismore, and drizzling at Armidale and Glen Innes; threatening at Grafton and Walcha. Wind generally between N. and S.E. and light. Smooth and moderate sea down the east coast; and the barometer has risen about 0·09 since yesterday. Additional stations: Coonamble, calm, fine, hot; Hill End, calm, fine, and clear; Wilcannia, calm, fine and clear; Lake Cudgellico, calm, fine, and clear; maximum 78·, minimum 68·.

Queensland.—Fine generally, with light wind between S. and N.E., except at Cape Moreton, where it is blowing strong, with rather rough sea. Squally and showery at Burketown, 1·18 of rain recorded this morning; 0·15 at Cape Moreton; and 0·08 at Brisbane. Cool weather at Blackall and Hughenden.

3 P.M. OBSERVATIONS.

Victoria.—Portland, S.E., 6, hot and hazy, smooth sea, temperature 84·; Cape Otway, E.S.E., 12, fine, streaky, smooth sea temperature 91·; Melbourne, S.W., 12, fine, hot, temperature 92·; Cape Schanck, calm, fine, sultry, dense haze, temperature 81·; Wilson's Promontory, N.E., 18, squally, smooth sea, temperature 77·; Lake Entrance, S.E., 6, smoky, temperature 79·.

New South Wales.—Menindie, calm, 0, fine, temperature 86·; Wentworth, calm, fine, temperature 86·; Deniliquin, calm, fine, warm, temperature 91·; Eden, N.E., 28, fine, light sea, temperature 76·; Moruya, N.E., 28, fine, smooth sea, temperature 76·; Cape St. George, E., 14, light, fine, smooth sea, temperature 78·; Sydney, E.N.E., light, light clouds, moderate sea, temperature 75·; Newcastle, S.E., moderate, fine, no sea, temperature 73·; Port Macquarie, E., fresh, fine, moderate sea, temperature 82·; Dubbo, N.E., 14, fine, temperature 78·; Goulburn, E.N.E., light, fine, temperature 73·.

Queensland.—Brisbane, S.E., strong, cloudy, passing showers.

HEIGHT OF RIVERS ABOVE SUMMER LEVEL.

Macintyre: At Mungindi, 27 feet, rising. Barwon: At Mogil Mogil, 21 feet, rising; at Walgett, 27 feet, rising. Namoi: At Walgett, 21 feet, rising. Culgoa: At Goodooga, 3 feet 8 inches, rising. Darling: At Brewarrina, 10 feet, rising; at Bourke, 16 feet 5 inches, rising; at Louth, 8 feet 6 inches, rising; at Tilpa, 10 feet 5 inches, rising; at Wilcannia, 10 feet 3 inches, rising; at Menindie, 20 feet 6 inches, falling; at Pooncarie, 23 feet 4 inches; at Wentworth, 10 feet 6 inches. Murrumbidgee: At Gundagai, 4 feet; at Wagga, 4 feet; at Hay, 13 feet 9 inches, rising; at Balranald, 11 feet. Murray: At Albury, 10 inches; at Euston, 3 feet.

ASTRONOMICAL MEMORANDA FOR FEBRUARY 11.

Sun rises at 5.33, sets at 6.56; Moon, 9.11 p.m., 8.4 a.m.; Mercury, 5.42 a.m., 7.12 p.m.; Venus, 6.49 a.m., 7.49 p.m.; Mars 6.50 a.m., 7.47 p.m.; Jupiter, 10.14 p.m., 11.24 a.m.; Saturn 4.50 p.m., 2.46 a.m. Full moon, 8th; new moon, 23rd.

High water at Fort Denison, February 11: 10.23 a.m., 10.44 p.m.

METEOROLOGICAL REPORTS AND MAP FOR FEBRUARY 11, 1887

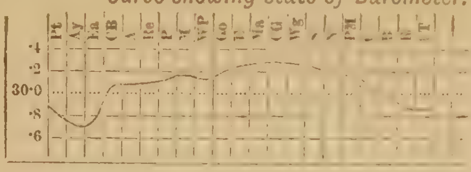
Stations	W	M	m	r'n
Albury	b	97	63	0
Armidale	d	75	56	0
Balranald	b	11[illegible]	65	0
Bathurst	b	79	54	0
Bend'm'r	b	76	56	0
Bodalla	b	86	60	0·07
Bourke	b	93	80	0
Br'w'rrina	-	—	—	-
Bundarra	b	79	62	0
C'nd'n H	b	79	71	0·35
C.St.Geo	b	83	68	0
Carcoar	b	75	46	0
Casino	b	82	62	0·45
Cassilis	b	77	63	0
Clarence	r	[illegible]	[illegible]	0·1[illegible]
C'nd'b'lin	b	90	51	0
Cooma	b	[illegible]	[illegible]	0
Coonab'n	b	[illegible]	[illegible]	0
Cowra	b	96	[illegible]	0
Deniliq'n	b	10[illegible]	64	0
Dubbo	b	87	5[illegible]	0
Eden	b	81	71	0
Euston	b	106	66	0
Forbes	b	—	55	0
Gl'n Inn's	c	71	54	0·05
Goulburn	b	[illegible]	[illegible]	0
Grafton	u	77	64	0·40
Gulgong	g	80	53	0
Gunned'h	b	80	63	0
Hay	b	100	70	0
Inverell	b	76	57	0
Kiandra	b	79	50	0
Lismore	-	—	—	-
Maitland	b	85	64	0
Marsdens	b	88	68	0
Menindie	b	80	71	0
Molong	b	80	56	0
M'r'ng'r'll	b	83	63	0
Moree	b	91	63	0
Moruya	b	80	63	0
Moss Vale	u	76	58	0
Mt. Hope	b	96	66	0
M. Vict'ria	b	81	50	0·05
Mudgee	b	88	55	0
M'rr'mb'h	b	89	62	0
M'rr'r'ndi	b	76	64	0
Mus'lbr'k	b	84	59	0
Narrabri	b	84	61	0
Newcastle	b	80	67	0
Orange	b	76	53	0
Picton	b	81	53	0
P. M'q'rie	p	80	66	0
P. St'ph'n	u	81	64	0
Q'nbeyan	b	77	60	0
Quirindi	b	84	62	0
Singleton	b	80	62	0
SYDNEY	c	79	66	0
Tamw'rth	-	—	—	-
Taralga	b	83	50	0
Taree	g	87	64	0·56
T'nt'rfield	g	81	62	0·30
Wagga	b	91	64	0
Walcha	u	72	56	0·04
Walgett	b	91	63	0
Warrah	b	81	70	0
W'ntw'rth	b	102	71	0
W'll'ng'ng	b	83	65	0
Young	b	100	57	0

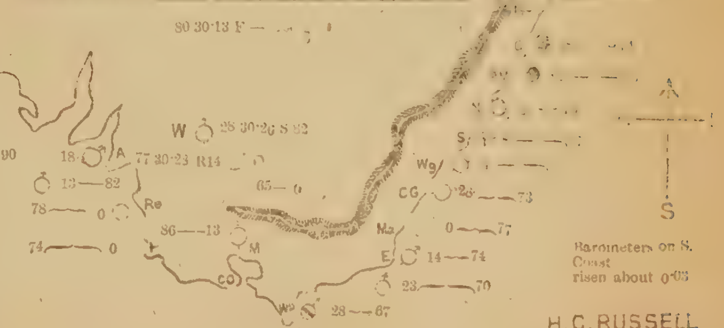
SYDNEY OBSERVATORY.
LATITUDE 33° 51' 41" S. LONGITUDE [illegible]

Average Annual Rainfall for 28 years...... .. 49·489
Average for 29 years from January 1 to 31, 1887 ... [illegible]
Total Rainfall from January 1 to Feb. 11, 1887 ... 7·705
Barometers corrected to 32° Fah. and Mean Sea Level

wind S. [illegible] wind W.
If it is calm, the symbol is used without the arrow.
Smooth sea.
Heavy sea
Very heavy sea

Curve showing state of Barometer.





H. C. RUSSELL
GOVERNMENT ASTRONOMER

NOTES EXPLANATORY OF MAP.

In the list of stations the column headed W.T. gives the state of the weather at 9 a.m., b standing for blue sky; c, detached clouds; d, drizzling rain; f, fog; g, gloomy; h, hazy; m, misty; n, frosty; o, overcast; p, passing showers; r, rain; s, snow; t, thunder; u, threatening. The next column, M'x gives the maximum temperature for previous 24 hours. M'n the corresponding minimum temperature; r'n, the rain for the previous 24 hours. The symbols used in the map are explained on the margin. At each coast station the wind symbol is placed like a vane pointing to the direction from which the wind is coming. A clear circle with it means fine weather; a circle with bar cloudy weather; and a black dot raining. Next to this symbol are placed figures denoting the number of miles the wind is moving per hour; next, a symbol showing the state of the sea; and, lastly, figures denoting the shade temperature at [illegible]. The barometer curve shows the state of barometers round the coast from Perth to Cooktown:—Pt, Perth; Ay, Albany; Ea, Eucla; CB, Cape Borda; A, Adelaide; Re, Robe; P, Portland; M, Melbourne; WP, Wilson's Promontory; Co, Gabo; L, Eden; Ma, Moruya; [illegible] Bay; Wg, Wollongong; S, Sydney; N, Newcastle; PM, Port Macquarie; C, Clarence River; B, Brisbane; R, Rockhampton; Ct, Cooktown. [illegible] is given in figures at Albury, Deniliquin, Wentworth, Menindie, Bourke, and [illegible] Springs. The barometer curve enables one at a glance to trace the depression [illegible] beginning with Western Australia and passing along eastwards, northerly wind preceding them, and southerly following.

Western Australia.—Cloudy at Perth, Cossack, and Carnarvon; strong wind in squalls at the last-named place, and raining lightly at Cossack (0·78 recorded at 9 a.m.); wind generally between S.W. and S.E., sea smooth.

South Australia.—Generally fine and hot, with scattered clouds; it is cloudy to the N. of Alice Springs, raining at Yam Creek and Tennant's Creek; the rainfall this morning is 1·41 at Port Darwin, 0·73 at Daly Waters, 0·50 at Yam Creek, 0·30 at Tennant's Creek, and 0·03 at Esperance Bay; at the last-mentioned place there was thunder, W., and a rough sea. The barometer has commenced to fall at Eucla.

Victoria.—Overcast at Wilson's Promontory, and squally, also foggy there and at Portland; wind generally N. to N.E., hazy at Omeo, Cape Schanck, and Lake Entrance, and sultry at Melbourne and Horsham; moderate sea Wilson's Promontory. The barometer has risen about ·03 since yesterday.

Tasmania.—Cloudy, with fresh N.N.E. breeze at Low Head, fine elsewhere; sultry and hazy at Hobart, also 0·01 of rain there; sea dead calm at Falmouth.

New Zealand.—Russell, barometer 30·2, wind S.W., and fine; Wellington, 30·1, N.E., fine; Bluff, 30·2, S.W., gloomy.

New South Wales.—Cloudy weather still prevails up N. to the eastward of the range; it is blowing hard from the S.E., with rain, at Clarence Heads, with rough sea. Showery at Camden Haven and Port Macquarie, and drizzling rain at Armidale, and threatening at Grafton; light S.E. to N.E. winds throughout the colony. Barometer is steady since yesterday, but is inclined to commence falling. Additional Stations: Coonamble, calm, fine, cool; Hill End, calm, fine, clear; Wilcannia, calm, fine, clear.

Queensland.—Cloudy weather at Brisbane, Burketown, and Normanton; showery at the two first-named places, and squally at Cooktown. Rainfall: at Brisbane, 0·39; Burketown, 0·5[illegible]; Cape Moreton, 0·14, also rather rough sea; and at Cooktown, 0·09 rain fell.

3 P.M. OBSERVATIONS.

Victoria.—Portland, E.S.E., 12, foggy, smooth sea, temperature 77°; Melbourne, E., fine, temperature 97°; Cape Schanck, E., 13, very fine, haze, slight sea, temperature 78°; Wilson's Promontory, N.E., 23, fine, squally, moderate sea, temperature 73°; Lakes Entrance, E., 13, fine, hazy, temperature 78°.

New South Wales.—Menindie, E., fine, clear, temperature 88°; Wentworth, E., fine, temperature 90°; Deniliquin, N.E., fine, temperature 90°; Eden, N.E., 28, fine, slight sea, temperature 74°; Moruya, N.E., 42, fine, smooth sea, temperature 75°; Cape St. George, N.E., 42, fine, temperature 77°; Sydney, E., fresh, light, cloudy, moderate sea, temperature 75°; Newcastle, E., showery, no sea, temperature 75°; Port Macquarie, S.E., 42, fine, moderate sea, temperature 81°; Walgett, E.S.E., fine, temperature 84°; Dubbo, E.N.E., 14, fine, temperature 79°; Goulburn, E.N.E., light, fine, temperature 73°.

Queensland.—Brisbane, S.E., 30, showery, bar. 29·96.

HEIGHT OF RIVERS ABOVE SUMMER LEVEL.

Macintyre: At Mungindi, 27 feet 6 inches, steady. Barwon: At Mogil Mogil, 21 feet 6 inches, steady; at Walgett, 28 feet, rising. Namoi: At Walgett, 22 feet, rising. Culgoa: At Goodooga, 3 feet 11 inches, rising. Darling: At Brewarrina, 11 feet, rising; at Bourke, 17 feet 5 inches, rising; at Louth, 9 feet rising; at Tilpa, 11 feet 8 inches, rising; at Wilcannia, 10 feet 4 inches, rising; at Menindie, 21 feet 2 inches, falling; at Pooncarie, 23 feet 1 inch; at Wentworth, 10 feet 5 inches. Murrumbidgee: At Gundagai, 5 feet 6 inches, falling; at Wagga, 4 feet; at Hay, 14 feet 6 inches, rising; at Balranald, 11 feet 3 inches. Murray: At Albury, 1 foot; at Euston, 3 feet.

ASTRONOMICAL MEMORANDA FOR FEBRUARY 12.

Sun rises at 5.34, sets at 6.55; Moon, 9.52 p.m., 9.11 a.m.; Mercury, 5.17 a.m., 7.13 p.m.; Venus, 6.51 a.m., 7.49 p.m.; Mars, 6.50 a.m., 7.45 p.m.; Jupiter, 10.10 p.m., 11.20 a.m.; Saturn, 4.46 p.m., 2.42 a.m. Full moon, 8th; new moon, 23rd.

High water at Fort Denison, February 12: 11.4 a.m., 11.26 p.m.

METEOROLOGICAL REPORTS AND MAP FOR FEBRUARY 12, 1887

Stations	wt	Mx	Mn	R'in
Albury	b	95	64	0
Armidale	u	70	55	0·06
Balranald	b	110	59	0
Bathurst	g	80	5	0
Bend'm'r	d	72	59	0·02
Bodalla	g	85	60	0·06
Bourke	b	93	67	0
Br'w rrina	-	—	—	-
Bundarra	g	99	62	0·02
C'md'n H	r	79	70	0·05
C.St.Geo	b	80	66	0
Carcoar	b	75	46	0
Casino	p	79	63	0·60
Cassilis	u	77	63	0
Clarence	r	80	69	0·36
C'nd'b'lin	b	92	51	0
Cooma	c	86	48	0
Coonab'n	b	81	59	0
Cowra	c	95	62	0
Deniliq'n	b	102	65	0
Dubbo	b	88	58	0
Eden	b	78	63	0
Euston	b	104	65	0
Forbes	b	—	56	0
Gl'n Inn's	c	75	52	0
Goulburn	g	81	53	0
Grafton	r	73	66	0·35
Gulgong	c	80	50	0
Gunned'h	c	84	65	0
Hay	b	92	69	0
Inverell	u	80	60	0
Kiandra	b	78	45	0
Lismore	o	82	69	0·67
Maitland	o	82	66	0·09
Marsdens	-	—	—	-
Menindie	b	72	69	0
Molong	b	80	55	0
M'r'ng'r'll	b	83	64	0
Moree	b	93	63	0
Moruya	b	81	61	0
Moss Vale	u	75	58	0
Mt. Hope	b	94	67	0
M.Vict'ria	r	73	52	0·04
Mudgee	u	87	56	0
M rr'mb'h	b	80	61	0
M'rr'r'ndi	r	75	64	0
Mus'lbr'k	n	83	59	0·03
Narrabri	c	87	63	0
Newcastle	g	80	66	0·15
Orange	c	71	52	0
Picton	u	79	58	0·06
P. M'q'rie	r	79	62	0·17
P. St'ph'n	u	79	63	0·10
Q'nbeyan	-	—	—	-
Quirindi	u	81	65	0
Singleton	g	80	66	0
SYDNEY	o	80	62	0·03
Tamw'rth	-	—	—	-
Taralga	u	81	50	0
Taree	o	80	66	1·14
T'nt'rfield	r	65	59	0·24
Wagga	b	90	59	0
Walcha	b	68	49	0·09
Walgett	b	90	61	0
Warrah	c	79	60	0
W'ntw'rth	b	101	70	0
W'll'ng'ng	c	85	70	0·07
Young	b	90	58	0

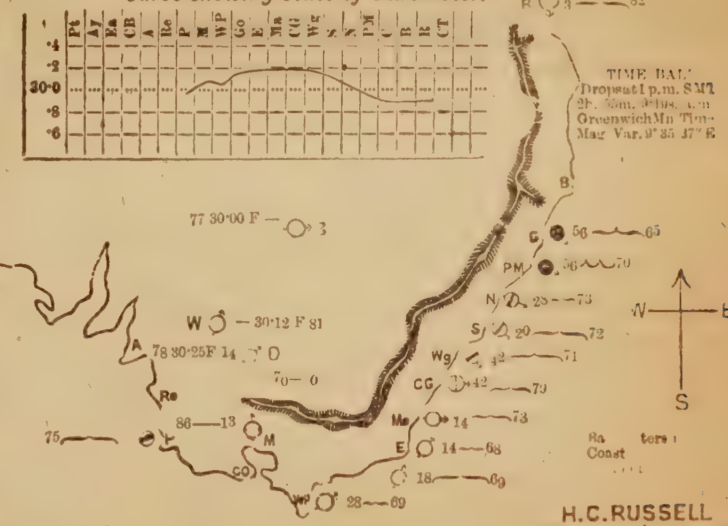
SYDNEY OBSERVATORY.

LATITUDE 33° 51' 41" S LONGITUDE 10h. 4m. 50·8s. E

Average Annual Rainfall for 28 years...... .. 49·489
Average for 29 years from January 1 to 31, 1887 .. 3·619
Total Rainfall from January 1 to Feb. 12, 1887 ... 7·153
Barometers corrected to 32° Fah. and Mean Sea Level

Fine, wind N. Cloudy wind E. T. storm, wind S. Rain, wind W. If it is CALM, the symbol is used without the arrow.
Smooth sea
Heavy sea
Very heavy sea.

Curve showing state of Barometer.



H.C.RUSSELL
GOVERNMENT ASTRONOMER

NOTES EXPLANATORY OF MAP.

In the list of stations the column headed W.T. gives the state of the weather at 9 a.m., b standing for blue sky; c, detached clouds; d, drizzling rain; f, fog; g, gloomy; h, hazy; m, misty; n, frosty; o, overcast; p, passing showers; r, rain; s, snow; t, thunder; u, threatening. The next column. M'x gives the maximum temperature for previous 24 hours. M'n the corresponding minimum temperature; r'n, the rain for the previous 24 hours. The symbols used in the map are explained on the margin. At each coast station the wind symbol is placed like a vane pointing to the direction from which the wind is coming. A clear circle with it means fine weather; a circle with bar, cloudy weather; and a black spot, raining. Next to this symbol are placed figures denoting the number of miles the wind is moving per hour; next, a symbol showing the state of the sea; and, lastly, figures denoting the shade temperature at 9 a.m. The barometer curve shows the state of barometers round the coast from Perth to Cooktown.—Pt, Perth; Ay, Albany; Ea, Eucla; CB, Cape Borda; A, Adelaide; Re, Robe; P, Portland; M, Melbourne; WP, Wilson's Promontory; Go, Gabo; E, Eden; Ma, Moruya; CJ, Jervis Bay; Wg, Wollongong; S, Sydney; N, Newcastle; PM, Port Macquarie; C, Clarence River; B, Brisbane; R, Rockhampton; Ct, Cooktown. Inland the state of barometer is given in figures at Albury, Deniliquin, Wentworth, Menindie, Bourke, and Alice Springs. The barometer curve enables one at a glance to trace the depressions, beginning with Western Australia, and passing along eastwards; northerly winds preceding them, and southerly following.

New South Wales.—The cloudy weather, with rain, on the E. side of range up N. reported yesterday is working down to the southward gradually, but still keeping on the eastern slope, as fine weather is reported everywhere to the west of the range. The wind throughout the colony is S.E. and E. generally, the barometer has fallen about ·12. Extra stations: Coonamble, fine, hot. Hill End, N.E. light, cloudy. Wilcannia, calm, fine, clear. Lake Cudgellico, S.E., fine, cool; max., 75°; min., 65°. Camden, cool; rainfall, 0·15.

Queensland.—Squally and showery at Burketown, with S.E. wind, and rainfall 0·27. Fine at Normanton, with fresh S.E. breeze and 0·11 of rain. Southerly breeze and fine at Rockhampton.

South Australia.—Generally fine and hot, with scattered clouds.

Victoria.—Generally fine, with strong breeze from N.E. to N.W., foggy at Cape Schanck, squally at Wilson's Promontory, also hazy there and at Melbourne; roughsea at Circular Head. The barometer has fallen about ·15 since yesterday.

Tasmania.—Fine, N. to S.E. winds; rough sea at Circular Heads.

New Zealand.—Russell, barometer 30·2, calm and fine; Wellington, 30·2, S.E., fine; Bluff, 30·3, gloomy, with wind from S.; sea generally smooth.

3 P.M. OBSERVATIONS.

Victoria.—Portland, S.E., 18, fine, smooth sea, temperature 87°; Cape Otway, E.N.E., 80, sultry, misty, moderate sea, temperature 84°; Melbourne (no telegrams); Wilson's Promontory, N.E., 24, squally, rough sea, temperature 75°.

New South Wales.—Menindie, S., 14, fine, clear, temperature 85°; Wentworth, E.N.E., 10, fine, temperature 83.; Deniliquin, E.S.E., fine, temperature 90°; Eden, N.W., 14, fine, smooth sea, temperature 74°; Moruya, S.E., 28, fine, smooth sea, temperature 73°; Cape St. George, S.E., 28, fine, smooth sea, temperature 74°; Sydney, S.E., 20, like rain, moderate sea, temperature 73°; Newcastle, S.E., 25, cloudy, strong rain, sea rising, temperature 73°; Port Macquarie, S.S.E., 42, thick, raining, heavy sea, temperature 72°; Clarence River, S.S.E., 40, gale, raining, heavy sea, temperature 69°; Walgett, S.E., like a storm, temperature 81°; Dubbo, S.E., 14, dull, hazy, temperature 79°; Goulburn, E S.E., 10, fine, temperature 69°. At 3 p.m. on Saturday a strong E. to S.E. gale, with heavy sea, was setting on to the coast from Jervis Bay to Clarence River, with every indication of its continuance, the barometric depression being to N. of Sydney. On Sunday the barometer fell very fast to 7.30 p.m., when it began to rise again. The fall in 12 hours on Sunday was 0·154 inches.

HEIGHT OF RIVERS ABOVE SUMMER LEVEL.

Macintyre: At Mungindi, 26 feet 6 inches, falling. Barwon: At Mogil Mogil, 21 feet 6 inches, steady; at Walgett, 29 feet, rising. Namoi: At Walgett, 23 feet, rising. Culgoa: At Goodooga, 4 feet 1 inch, rising. Darling: At Brewarrina, 12 feet 8 inches, rising; at Bourke, 18 feet 2 inches, rising; at Louth, 9 feet 6 inches, rising; at Tilpa, 13 feet 6 inches, rising; at Wilcannia, 11 feet; at Menindie, 20 feet 11 inches; at Wentworth, 10 feet 3 inches. Murrumbidgee: At Gundagai, 4 feet, falling; at Wagga, 3 feet 9 inches; at Hay, 15 feet 6 inches, rising; at Balranald, 11 feet 3 inches. Murray: At Albury, 0·6 inches; at Euston, 3 feet.

ASTRONOMICAL MEMORANDA FOR FEBRUARY 14.

Sun rises at 5.36, sets at 6.53; Moon, 11.13 p.m., 11.22 a.m.; Mercury, 5.56 a.m., 7.16 p.m.; Venus, 6.56 a.m., 7.48 p.m.; Mars, 6.50 a.m., 7.42 p.m.; Jupiter, 10.3 p.m., 11.13 a.m.; Saturn, 4.37 p.m., 2.33 a.m. Full moon, 8th; new moon, 23rd.

High water at Fort Denison, February 14: 11.10 a.m., 12.32 p.m.

METEOROLOGICAL REPORTS AND MAP FOR FEBRUARY ...

Station	W.T.	M'x	M'n	Rain
Albury	b	99	61	0
Armidale	b	72	54	1·44
Balranald	b	108	64	0
Bathurst	b	75	59	0·16
Bend'm'r	b	77	55	0·38
Bodalla	b	91	61	[illegible]
Bourke	c	72	64	1·02
Br'w rrina	–	—	—	–
Bundarra	b	77	58	0·58
C'nd'n H	–	—	—	–
C.St.Geo	b	74	68	0·58
Carcoar	b	75	51	0·10
Casino	b	85	60	0
Cassilis	b	75	63	0·06
Clarence	b	82	69	0
C'nd'b'lin	g	86	51	0·16
Cooma	o	79	61	0·07
Coonab'n	b	76	56	1·02
Cowra	c	84	66	0·07
Deniliq'n	[illegible]			
Dubbo	b	87	61	0
Eden	–			
Euston	c	97	56	0
Forbes	b	—	61	15
Gl'n Inn's	b	70	51	1·80
Goulburn	b	68	61	0·40
Grafton	b	77	62	0·03
Gulgong	b	80	55	0
Gunned'h	b	85	61	0·60
Hay	c	92	77	0
Inverell	b	71	56	0·85
Kiandra	r	67	45	0·10
Lismore	b	84	65	–
Maitland	b	87	63	1·22
Marsdens	u	87	67	0
Menindie	c	80	70	0
Molong	g	83	59	0·09
M'r'ng'r'll	u	80	69	0·04
Moree	b	71	62	2·91
Moruya	b	77	66	1·59
Moss Vale	b	68	60	2·02
Mt. Hope	r	77	65	0
M.Vict'ria	b	73	51	3·65
Mudgee	b	85	56	0·05
M'r'mb'h	b	79	04	0
M'rr'nd	b	78	63	0·54
Mus'lbr'k	b	85	57	1·21
Narrabri	b	85	61	1·44
Newcastle	b	76	65	0·90
Orange	c	75	57	0·07
Picton	b	71	65	1·96
P. M'q'rie	–	—	—	–
P. St'ph'n	b	76	62	1·30
Q'nbeyan	c	72	62	0·04
Quirindi	–	—	—	–
Singleton	b	73	65	0·70
SYDNEY	b	75	66	1·53
Tamw'rth	–	—	—	–
Taralga	b	71	45	2·60
Taree	–	—	—	–
T'nt'rfield	b	75	53	2·67
Wagga	g	65	59	0
Walcha	b	73	42	1·71
Walgett	b	71	58	1·35
Warrah	b	[illegible]	[illegible]	[illegible]
W'ntw'rth	n	95	79	0
W'll'ng'ng	b	73	68	1·75
Young	g	88	63	0

SYDNEY OBSERVATORY.
LATITUDE 33° 51′ 41″ S. LONGITUDE 10h. 4m. 50·81s. E.

Average Annual Rainfall for 28 years .... 49·482
Average for 29 years from January 1 to 31, 1887 ... 3·619
Barometers corrected to 32° Fah. and Mean Sea Level

Curve showing state of Barometer.

NOTES EXPLANATORY OF MAP.

In the list of stations the column headed W.T. gives the state of the weather at 9 a.m., b standing for blue sky; c, detached clouds; d, drizzling rain; f, fog; g, gloomy; h, hazy; m, misty; r, frosty; o, overcast; p, passing showers; r, rain; s, snow; t, [illegible] threatening. The next column, M'x gives the maximum temperature for [illegible] hours. M'n the [illegible] hours. The [illegible] the wind symbol is placed [illegible] coming. A clear circle [illegible] a circle with bar, cloudy weather; and a black spot, raining. Next to this symbol are placed figures denoting the number of miles the wind [illegible] of the sea; and, lastly, figures denoting the shade temperature at 9 a.m. The barometer curve shows the state of barometers round the coast [illegible] Perth; Av, Albany; [illegible] M, Melbourne; W P, Wilson's Promontory; Go, Gabo; E, Eden; Ma, Moruya; CG, Jervis Bay; Wg, Wollongong; S, Sydney; N, Newcastle; [illegible] River; [illegible] is given in figures at [illegible] Springs. [illegible] beginning [illegible] ceding them, and [illegible] following.

Western Australia.—Generally fine, with strong southerly winds and rough sea. Showery at Esperance Bay. Rainfall: Cossack, 4·41 inches.

South Australia.—Generally fine and cool, with scattered clouds, near the coast; fresh S.E. to S.W. winds and moderate sea. Rainfall: Daly Waters, 4·78 inches; Port Darwin, 2·84; and Yam Creek, 1·15.

Victoria.—Generally more or less cloudy, with S. to E. winds, fallen barometers, and smooth sea; foggy along coast; squally at Wilson's Promontory.

Tasmania.—Raining thick at Low Heads and Hobart, with S.E. winds and smooth sea. Rainfall: Low Heads, 0·34; Southport, 0·02 inch.

New Zealand.—Generally fine, with light E. wind in extreme north, calms in south parts, and smooth sea. Barometers 30·2.

New South Wales.—Fine, clear, and warm in E. and N. parts, cloudy and unsettled over the remainder of the colony, with light rain falling at Kiandra and [illegible] light from N. to E., barometers have fallen generally, and the sea is moderate to rough. Rain has fallen in the eastern division, heaviest along the western slope of the ranges and in the South Coast districts. [illegible] several stations had over 2 inches, and a dozen others over an inch. Extra stations: Nowra, rainfall 2·70 inches; Camden, rainfall 1·40. The Nepean at Camden runs over the handrails of bridge, the flats are being inundated rapidly, and a moderate high flood is anticipated. Bega, rainfall 1·00 inch. Wilcannia, rainfall 0·25 and still raining. Taree, max. 78°, min. 64°, rain. Laurieton, 3·70; rain 9 a.m., Saturday, to 9 a.m., Monday. For further particulars see map.

Queensland.—Generally cloudy and unsettled, with light easterly winds and calms. Showery at Townsville, 0·82 inch rain fallen. Yesterday strong easterly gales blew over the South Coast districts, causing tremendous sea off Cape Moreton; the barometer fell to 2[illegible].

3 P.M. OBSERVATIONS.

Victoria.—Portland, S., [illegible] misty, [illegible] Melbourne, S.W., 6, fine, temperature 17; [illegible] S., 14, very misty, smooth sea, temperature 75; Lakes Entrance, [illegible] wind, temperature 8[illegible].

New South Wales.—Menindie, E.N.E., 26, overcast [illegible] temperature 78°; Wentworth, S., 14, [illegible] temperature [illegible]; Deniliquin, calm, [illegible] Eden, N.E., 2[illegible], fine and cloudy, rough sea, [illegible] Cape St. George, N.E., 56, [illegible] Sydney, N.E., 18, fine and warm, [illegible] Newcastle, N.E., 14, fine, moderate sea, [illegible] Walgett, N.W., 14, fine, temperature 82°; Dubbo, W., 14, fine but cloudy, temperature 80°; Goulburn, N.W., 14, fine, temperature 72°; Brisbane, N.E., 12, fine, temperature 82°.

HEIGHT OF RIVERS ABOVE SUMMER LEVEL.

Macintyre: At Mungindi, [illegible] 21 feet 6 inches; at Walgett, 31 feet. Namoi: [illegible] feet 6 inches. Culgoa: At Goodooga, 4 feet [illegible] At Brewarrina, 14 feet; at B[illegible] feet; at Tilpa, [illegible] at Menindie, 20 feet 6 inches [illegible] at Wentworth, 11 feet. [illegible] inches; at Wagga, 3 feet 6 inches; at Hay, 15 feet 6 in[illegible] Balranald, 11 feet 9 inches. Murray: At Albury, 5 [illegible] at Euston, 4 feet.

ASTRONOMICAL MEMORANDA FOR FEBRUARY 15.

Sun rises at 5.37, sets at 6.52; Moon, 11.57 p.m., 12.25 p.m.; Mercury, 6.1 a.m., 7.16 p.m.; Venus, 6.58 a.m., 7.47 p.m.; Mars, 6.50 a.m., 7.40 p.m.; Jupiter, 9.59 p.m., 11.9 a.m.; Saturn, 4.33 p.m., 2.29 a.m. Full moon, 8th; new moon, 23rd.

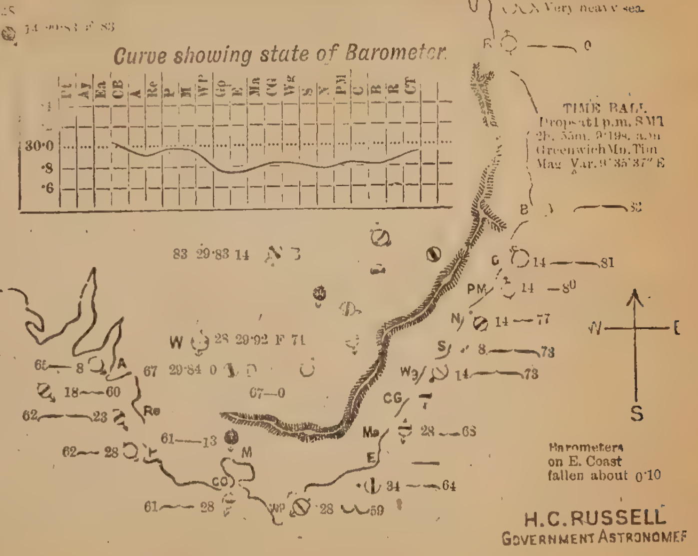
High water at Fort Denison, February 1[illegible] [illegible] p.m.

METEOROLOGICAL REPORTS AND MAP FOR FEBRUARY 2, 1887.

Stations	W.T.	Mx	M'n	R'in
Alb[illegible]	c	[illegible]	64	0
A[illegible]	[illegible]	[illegible]	[illegible]	0
Balranald	[illegible]	102	55	0
Bathurst	c	88	59	0
Bend'm'r	b	91	66	0
Bod[illegible]lla	g	83	65	0
Bourke	u	105	75	0
Br'w'rrina	–	—	—	–
Bundarra	b	83	67	0
C'md'n H	b	[illegible]	73	0
C. St. Geo	c	78	67	0
Carcoar	g	78	51	0
Casino	b	95	68	[illegible]
Cassilis	c	[illegible]	[illegible]	[illegible]
Clarence	b	[illegible]	[illegible]	[illegible]
C'nd'b'lin	u	1[illegible]	[illegible]	[illegible]
Cooma	c	87	58	[illegible]
Coonab'n	b	91	80	0
Cowra	u	89	63	0
Deniliq'n	c	96	57	0·07
Dubbo	g	94	62	0
Eden	–	—	—	–
Euston	u	101	66	0
Forbes	u	—	67	0
Gl'n Inn's	b	94	62	0
Goulburn	u	86	58	0
Grafton	u	96	79	0·42
Gulgong	o	87	63	0
Gunned'h	b	92	70	0
Hay	u	90	66	0
Inverell	b	86	69	0
Kiandra	g	79	49	0
Lismore	b	92	73	0
Maitland	b	90	70	0
Marsdens	r	85	70	0
Menindie	r	93	65	0
Molong	g	92	61	0
M'r'ng'r'll	n	89	68	0
Moree	g	99	70	0
Moruya	g	80	65	0
Moss Vale	u	82	65	0
Mt. Hope	g	100	69	0
M. Vict'ria	c	91	60	0
Mudgee	c	91	60	0
M'r'mb'h	c	90	59	0
M'rr'r'ndi	b	86	70	0
Mus'lbr'k	b	93	61	0
Narrabri	b	95	71	0
Newcastle	c	80	71	0
Orange	b	80	57	0
Picton	b	82	69	0
P. M'q'rie	b	83	68	0
P. St'ph'n	g	85	66	0
Q'nbeyan	c	80	64	0
Quirindi	b	91	72	0
Singleton	b	87	73	0
SYDNEY	g	78	69	0
Tamw'rth	b	90	67	0
Taralga	u	83	49	0
Taree	b	82	69	0·01
T'nt'rfield	b	90	62	0·09
Wagga	u	95	63	0
Walcha	f	84	57	0
Walgett	b	99	78	0
Warrah	c	90	54	0
W'ntw'rth	c	96	62	0
W'll'ng'ng	c	80	69	0
[illegible]	u	96	63	0

SYDNEY OBSERVATORY.
LATITUDE 33° 51′ 41″ S LONGITUDE 10h. 4m. 50·8s. E

Average Annual Rainfall for 28 years .... 49·[illegible]
Average for 29 years from January 1 to [illegible] ... 3·[illegible]
Total Rainfall from January 1 to Feb. 2, 1887 ... [illegible]
Barometers corrected to 32° Fah. and Mean Sea Level



NOTES EXPLANATORY OF MAP.

In the list of stations the column headed W.T. gives the state of the weather at 9 a.m., b standing for blue sky; c, detached clouds; d, drizzling rain; f, fog; g, gloomy; h, hazy; m, misty; n, frosty; o, overcast; p, passing showers; r, rain; s, snow; t, thunder; u, threatening. The next column, M'x gives the maximum temperature for previous 24 hours. M'n the corresponding minimum temperature; r'n the rain for the previous 24 hours. The symbols used in the map are explained on the margin. At each coast station the wind symbol is placed like a vane pointing to the direction from which the wind is coming. A clear circle with it means fine weather; a circle with bar, cloudy weather; and a black spot, raining. Next to this symbol are placed figures denoting the number of miles the wind is moving per hour; next, a symbol showing the state of the sea; and, lastly, figures denoting the shade temperature at 9 a.m. The barometer curve shows the state of barometers round the coast from Perth to Cooktown:—Pt, Perth; Ay, Albany; Ea, Eucla; CB, Cape Borda; A, Adelaide; Re, Robe; P, Portland; M, Melbourne; WP, Wilson's Promontory; Go, Gabo; E, Eden; Ma, Moruya; CG Jervis Bay; Wg, Wollongong; S, Sydney; N, Newcastle; PM, Port Macquarie; C, Clarence River; B, Brisbane; R, Rockhampton; Ct, Cooktown. Inland the state of barometer is given in figures at Albury, Deniliquin, Wentworth, Menindie, Bourke, and Alice Springs. The barometer curve enables one at a glance to trace the depressions, beginning with Western Australia, and passing along eastwards; northerly winds preceding them, and southerly following.

Western Australia.—On the 1st, generally fine, with light south east winds, rising barometers, and moderate sea in south, rough off Cossack. Extremes of barometers and temperature: Albany, 30·20; Cossack, 29·55; Geraldton, 84°; and in south parts, 64°. Rainfall at Geraldton, 0·07 inch.

South Australia.—Generally more or less cloudy and gloomy, with light rain falling in parts, fresh S.E. to S.W. winds, risen barometers, and moderate sea. Light rain has fallen generally, except in S.E. parts; greatest at Overland Corner, 0·66 inch; Milang, 0·57; Beltana, 0·51; Murray Bridge and Yarcowie, 0·50; Youngala, 0·46. In Northern Territory: Port Darwin, 0·80; Alice Springs, 0·42; Tennants, 0·05. Extremes of barometers and temperature—On the coast: Eucla, 30·01 and 69°; Port Augusta, 29·85; and Macdonnell Bay, 59°. In Northern Territory: Daly Waters, 29·73 and 81°; Port Darwin, 29·57 and 83°.

Victoria.—Generally fine, but cloudy, with fresh southerly winds, rising barometers, and moderate to rough sea; squally, and sea rising on the coast. Passing showers: At Melbourne, 0·01 inch fallen; 0·03 inch at Cape Otway. Extremes of barometers and temperature: Cape Otway, 30·01; Echuca, 29·81; Horsham, 74°; and Hamilton, 58°.

Tasmania.—Generally fine but cloudy, with misty rain falling at Falmouth; light S.W. to W. winds, rising barometers, and moderate sea. Rainfall: Southport, 0·25; and Hobart, 0·02. Extremes of barometers and temperature: Low Heads, 29·88 and 59°; Hobart, 29·81 and 55°.

New Zealand.—Generally fine, with N.W. winds; strong wind in squals, and showery over central parts during the night. Barometers: Russell, 30·6; Wellington, 29·7; and Bluff, 29·6.

New South Wales.—Generally more or less cloudy and dull, with light southerly winds, almost steady barometers, and smooth sea. Raining at Menindie and Marsden's; squally in south coast districts; and light rain fallen at a few stations in N.E. parts. Extremes of barometers and temperature at 9 a.m.: Wentworth, 29·92; Forbes, 29·72; Bourke, 83°; and Kiandra, 58°. Reading of the standard barometer at Sydney corrected to 32° Fahr. and mean sea level, at 9 a.m., 29·777. Extra station: Lake Cudgellico, max. 76°, min. 71°, calm and dull. For further particulars see map.

Queensland.—Raining with thunder in north parts; thunderstorms during the night in south, but now clearing and hot; light variable winds. Rainfall: Burketown, 1·76; Roma, 1·32; Hughenden, 0·60; Rockhampton, 0·52; Cooktown, 0·32; Mackay, 0·13; and Brisbane, 0·05 inches. Extremes of barometers and temperature: Cooktown, 29·90 and 88°; Cape Moreton, 29·79 and 77°.

3 P.M. OBSERVATIONS.

Brisbane.—N., 8, cloudy and threatening, temperature 82°.

Victoria.—Portland, S.E., 34, fine, smooth sea, temperature 66°; Cape Otway, S., 23, fine, moderate sea, temperature 63°; Melbourne, S., 18, cloudy, temperature 67°; Cape Schanck, S., 13, fine but cloudy, smooth sea, temperature 65°; Wilson's Promontory, S.S.W., 18, fine but cloudy, moderate sea, temperature 65°; Lakes Entrance, W.S.W., 28, fine but cloudy, temperature 67°.

New South Wales.—Menindie, S.E., 14, raining, temperature 76°; Wentworth, calm, cloudy, and stormy, temperature 65°; Deniliquin, S.E., 14, cloudy, temperature 76; Moruya, S., 40, cloudy, moderate sea, temperature 67°; Cape St. George, S.E., 42, cloudy and fresh, smooth sea, temperature 71°; Sydney, S.S.E., 25, fine but cloudy, moderate sea, temperature 7[illegible]°; Newcastle, S., 14, cloudy, smooth sea, temperature 76°; Dub[illegible], [illegible], 14, overcast and threatening, temperature 78°; Forbes, calm, overcast and threatening; Goulburn, W., 14, dull, temperature 74°.

HEIGHT OF RIVERS ABOVE SUMMER LEVEL.

Macintyre: At Mungindi, 17 feet. Barwon: At Mogil Mogil, 13 feet; at Walgett, 8 feet 10 inches. Namoi: At Walgett, 8 feet. Culgoa: At Goodooga, 3 feet 10 inches. Darling: At Brewarrina, 3 feet 6 inches; at Bourke, 7 feet 3 inches; at Louth, 6 feet 3 inches; at Tilpa, 7 feet 6 inches; at Wilcannia, 8 feet 2 inches; at Menindie, 23 feet 10 inches; at Pooncarie, 23 feet 7 inches; at Wentworth, 11 feet 3 inches. Murrumbidgee: At Gundagai, 6 feet; at Wagga, 8 feet 6 inches; at Hay, 8 feet; at Balranald, 2 feet. Murray: At Albury, 1 foot 6 inches; at Euston, 3 feet 6 inches.

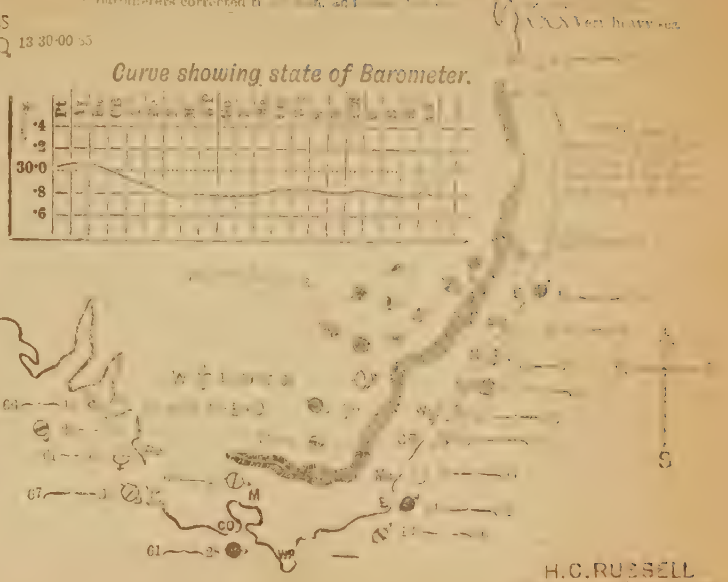
ASTRONOMICAL MEMORANDA FOR FEBRUARY 3.

Sun rises at 5.25, sets at 7.3; Moon, 2.24 p.m., 12.7 a.m.; Mercury, 5.7 a.m., 7.3 p.m.; Venus, 6.33 a.m., 7.52 p.m; Mars, 6.52 a.m., 8.2 p.m.; Jupiter, 10.45 p.m., 11.55 a.m.; Saturn, 5.2[illegible] p.m., 3.20 a.m. Full moon, 8th; new moon, 23rd.

High water at Fort Denison, February 3: 2.36 a.m., 3.13 p.m.

Armidale	c	79	64	0·1
Balranald	b	86	65	0
Bathurst	r	86	62	0
Bend'm'r	r	81	67	0·11
Bodalla ..	-	—	—	-
Bourke ..	b	87	70	0·06
[illegible]	-			
Bundarra	c	80	61	0·15
C'md'n H	c	79	72	0
C.St.Geo	c	77	68	0·03
Carcoar	c	78	54	0
Casino ..	r	89	67	0·19
Cassilis ..	o	82	66	0·06
Clarence	u	88	72	0·26
C'nd'b'lin	-	—	—	-
Cooma ..	c	87	61	0·60
Coonab'n	g	81	61	0·10
Cowra ..	u	97	71	0·10
Deniliq'n	g	88	62	0
Dubbo ..	r	93	66	0
Eden	r	76	64	0·47
Euston ..	c	94	68	0
Forbes ..	u	—	69	0·30
Gl'n Inn's	r	80	61	0·30
Goulburn	g	88	59	0·11
Grafton ..	u	78	68	0·67
Gulgong	c	85	60	0
Gunned'h	c	89	67	0·06
Hay	c	96	68	0·14
Inverell ..	r	82	67	0·20
Kiandra	c	82	54	0·54
Lismore	r	82	72	0·13
Maitland	g	89	70	0
Marsdens	c	93	75	0
Menindie	-	—	—	-
Molong ..	o	83	64	0·02
M'r'ng'r'll	u	92	70	0·07
Moree ..	o	90	69	0·11
Moruya ..	h	80	68	0·03
Moss Vale	u	80	63	0·96
Mt. Hope	r	93	68	0·52
M.Vict'ria	r	80	49	0·05
Mudgee	u	94	61	0·02
M'rr'mb'h	c	91	72	0·15
M'rr'r'ndi	u	81	69	0
Mus'lbr'k	r	90	67	0·01
Narrabri	o	94	64	0·11
Newcastle	c	81	70	0
Orange ..	r	81	59	0·02
Picton ..	u	84	63	0
P. M'q'rie	h	84	69	0
P. St'ph'n	o	82	66	0
Q'nbeyan	c	84	66	0·06
Quirindi	u	88	70	0·05
Singleton	u	75	73	0
SYDNEY ..	r	79	69	0·14
Tamw'rth	-	—	—	-
Taralga ..	g	72	49	0
Taree ..	c	87	70	0
T'nt'rfield	g	82	63	0·20
Wagga ..	r	98	69	0·05
Walcha ..	u	77	56	0·11
Walgett ..	-	—	—	-
Warrah ..	u	70	60	0·76
W'nt'w'rth	r	90	65	0·05
W'll'ng'ng	c	83	71	0
Young ..	g	98	64	0

Average for 24 years [illegible]
Total Rainfall from Jan[illegible]
Barometers corrected t[illegible]



H.C.RUSSELL
GOVERNMENT ASTRONOMER

NOTES EXPLANATORY OF MAP.

In the list of stations the column headed W.T. gives the state of the weather at 9 a.m., b standing for [illegible] sky, c, detached clouds; d, drizzling rain; f, fog; g, gloomy, h, hazy; m, misty; n, frosty; o, overcast; p, passing showers; r, rain; s, snow; t, thunder; u, threatening. The next column, M'x gives the maximum temperature for previous 24 hours. M'n the corresponding minimum temperature; r'n, the rain for the previous 24 hours. The symbol [illegible] the wind symbol is placed like a vane pointing to the direction from which the wind is coming. A clear circle with it means fine weather; a circle with bar, cloudy weather; and a black spot, raining. Next to this symbol are placed figures denoting the number of [illegible] a symbol [illegible] of the sea; and, lastly, figures denoting the shade temperature at 9 a.m. The barometer curve shows the state of barometers round the coast from Perth to Cooktown:—Pt, Perth; Ay, Albany; Ea, Eucla; CB, Cape Borda; A, Adelaide; Re, Robe; P, Portland; M, Melbourne; W.P. Wilson's Promontory; G, Gabo; [illegible] Bay; Wg, Wollongong; S, Sydney; N, Newcastle; PM, Port Macquarie; C, Clarence River; B, Brisbane; R, Rockhampton; Ct, Cooktown. Inland the state of barometer is given in figures at Albury, Deniliquin, Wentworth [illegible] Springs. T[illegible] enables one at a glance to trace the depressions, beginning with Western Australia, and passing along eastwards; northerly winds preceding them, and southerly following.

Western Australia.—Generally cloudy an[illegible], wit misty rain at Albany, light variable winds and calms, fallen barometers, and smooth to moderate sea. Rainfall: Cossack 0·03 and Albany 0·02 inches.

South Australia.—Generally cloudy and gloomy, with light rain at places south of Peake, light south to south-west winds, steady barometers, and smooth sea. Rainfall: Yam Creek 0·20, Eucla 0·07, and Streaky Bay 0·01 inches.

Victoria.—Generally cloudy and threatening, with showers of light, misty rain in east parts, light south to east winds, fallen barometers, and smooth sea. Rainfall: Echuca 0·65, Omeo 0·14, and Melbourne 0·05 inch. Heavy rain falling at Echuca, foggy at Omeo, misty and sultry on the coast.

Tasmania.—Generally fine but cloudy, with light south to east winds, fallen barometers, and moderate sea.

New Zealand.—Generally overcast and gloomy, with light east winds and calms; showery, with strong N.E. wind and rough sea in extreme north. Barometers: Russell 29·6, Wellington 29·7, and Bluff 29·9.

New South Wales.—Cloudy and dull throughout, with rain in scattered places, principally along the western slope of the range. Winds are light, chiefly easterly, with calms in places. Barometers have fallen slightly, and the sea is smooth. Light rain has fallen on and near the range; heaviest at Moss Vale, where nearly an inch fell. Reading of the standard barometer at Sydney, corrected to 32° Fah. and mean sea level, at 9 a.m., 29·805. Extra stations—Lake Cudgellico, max. 74°, min. 70°, dull and threatening; Coonamble, raining heavily, calm. For further particulars see map.

Queensland.—Generally fine and warm, with clouds in places, light variable winds and calms, steady barometers, and moderate sea. Rainfall: [illegible]; Brisbane, 0·12; and Cape Moreton, 0·08 inches.

3 P.M. OBSERVATIONS.

Victoria.—Cape Otway, [illegible] E., 30, showery, moderate sea, temperature 6[illegible]; Melbourne, S.S.W., 12, misty, temperature 70°; Cape Schanck, S.E., 5[illegible], threatening rain, [illegible] temperature 67°; Wilson's Promontory, S.E., 1[illegible], temperature 71°; Lakes' Entrance, E., 12, showery, temperature 73°.

New South Wales.—Menindie, calm, raining, temperature [illegible]; Wentworth, S.E., 14, dull, like rain, temperature 70°; Deniliquin, S.W., 14, raining heavily, temperature 79°; Eden, N.E., 28, cloudy, temperature 74°; Sydney, E., 11, overcast and dull, smooth sea, temperature 74°; Newcastle, N.E., 14, dull, smooth sea, temperature 76°; Port Macquarie, N.E., 28, fine and hazy, smooth sea, temperature 82°; Clarence River, N.E., 14, dull, moderate sea, temperature 7[illegible]; Walgett, calm, cloudy, temperature 80°; Dubbo, N., 14, fine, temperature 77°; Goulburn, E., 14, fine, temperature 73°.

Queensland.—Brisbane, E., 6, threatening rain, temperature 75°; Cape Moreton, E., 18, threatening rain.

HEIGHT OF RIVERS ABOVE SUMMER LEVEL.

Macintyre: At Mungindi, 3 feet [illegible]. Barwon: At Mogil Mogil, 21 feet 6 inches; at Walgett, 34 feet 6 inches. Namoi: At Walgett, 26 feet 6 inches. Darling: At Brewarrina, 16 feet 1 inch; at Bourke, 21 feet 6 inches; at Louth, 14 feet 6 inches; at Tilpa, 18 feet 8 inches; at Wilcannia, 15 feet 2 inches; at Wentworth, 11 feet 6 inches. Murrumbidgee: At Gundagai, 3 feet; at Wagga, 3 feet; at Hay, 10 feet 9 inches; at Balranald, 11 feet 4 inches. Murray: At Albury, 10 inches; at Euston, 3 feet.

ASTRONOMICAL MEMORANDA FOR FEBRUARY 17.

Sun rises at 5.39 a.m., sets at 6.49 p.m.; Moon rises at 12.43 a.m., sets 2.23 p.m.; Mercury rises 6.11 a.m., sets 7.17 p.m.; Venus, 6.2 a.m., 7.45 p.m; Mars, 6.50 a.m., 7.36 p.m.; Jupiter, 9.51 p.m., 11.1 a.m.; Saturn, 4.25 p.m., 2.21 a.m. Full moon, 8th; new moon, 23rd.

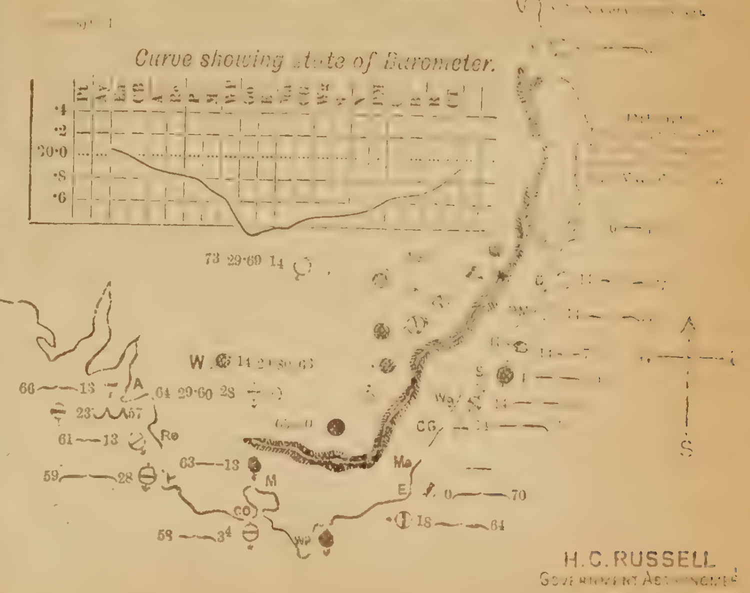
High water at Fort Denison: 3.5 a.m., 3.43 p.m.

[illegible]GICAL R[illegible]TS AND MAP FOR FEBRU[illegible]

SYDNEY OBSERVATORY.
LATITUDE 33° 51′ 41″ S [illegible]

[illegible] years from January 1 to [illegible]
[illegible] January 1 to Feb. 17.
[illegible] Feb. and [illegible]

Stations	W.T.			
Bend'm't	[illegible]			
Bourke ..	b			
Br'w'rrina				
C'nd'n'll	c			
C. St. G.				
Carcoar ..	r			
Casino ..	[illegible]			
Cassilis ..	r			
Clarence	[illegible]			
C'nd'b'lin	u			
Cooma ..	c			
Coonab'n	r			
Cowra ..	u			
Deniliq'n	o			
Dubbo ..	c			
Eden	u			
Euston ..	c			
Forbes ..	g	—	66	1·51
Gl'n Inn's	u	81	61	0·10
Goulburn	g	82	60	0·38
Grafton ..	b	79	69	0·04
Gulgong	u	80	60	0·90
Gunned'h	r	84	69	0·66
Hay	c	88	63	0·15
Inverell ..	r	79	67	0·73
Kiandra	r	70	50	0·84
Lismore	b	82	68	0
Maitland	r	91	72	0·09
Marsdens	u	82	68	1·04
Menindie	o	65	63	1·71
Molong ..	c	78	60	0·57
M'r'ng'r'll	u	88	67	1·01
Moree ..	c	85	67	0·16
Moruya ..	—	—	—	—
Moss Vale	b	73	64	0·40
Mt. Hope	u	80	64	1·45
M. Vict'ria	r	80	54	0·35
Mudgee	r	87	60	1·83
M'rr'mb'h	c	84	61	1·35
M'rr'r'ndi	r	79	68	0·84
Mus'lbr'k	r	[illegible]	[illegible]	0·29
Narrabri	g	88	68	0·08
Newcastle	r	80	71	0·01
Orange ..	c	71	51	1·00
Parkes	r	79	65	0·34
P. M'q'rie	c	87	70	0
P. St'ph'n	o	84	66	0
Q'nbeyan	c	77	55	0·95
Quirindi	r	82	67	1·25
Singleton	r	73	70	0
SYDNEY ..	r	76	69	0·32
Tamw'rth	—	—	—	—
Taralga ..	u	83	57	0·20
Taree ..	g	88	71	0
T'nt'rfield	n	76	62	0·03
Wagga ..	u	82	63	1·15
Walcha ..	r	76	58	0·02
Walgett ..	r	87	66	0·25
Warrah ..	r	75	68	0·86
W'ntw'rth	r	74	61	0·07
W'll'ng'ng	c	78	70	0·64
Young ..	u	82	61	1·58



H. C. RUSSELL,
Government Astronomer.

NOTES EXPLANATORY OF MAP.

In the list of stations the column headed W.T. gives the state of the weather at 9 a.m.. b standing for blue sky; c, detached cloud; d, drizzling rain; f, fog; g, gloomy; h, haz[illegible]; m, misty; n, frosty; o, overcast; p, passing showers; r, rain; s, snow; t, thunder; u, threatening. The next column [illegible] hours. [illegible] hours. The symbol is used in the map [illegible] the wind symbol is placed like a [illegible] pointing to the direction [illegible] coming. A clear circle with [illegible] weather; and a black spot, raining. [illegible] the number of miles the wind is moving per hour [illegible] of the sea; and, lastly, figures denoting the [illegible] curve shows the state of barometer [illegible] Perth; Ay, Albany; Ea, Eucla; [illegible] M, Melbourne; W P, Wilson's Promontory; [illegible] Bay; Wg, Wollongong; S, Sydney; N, Newcastle; [illegible] River; B, Brisbane; R, Rockhampton; Ct, Cooktown. Inland the state of [illegible] is given in figures at Albury, [illegible], Wentworth, [illegible] Springs. The barometer curve enables one at a glance to trace the depression, beginning with Western Australia, and passing along eastwards; northerly winds preceding them, and southerly following.

Western Australia.—Generally cloudy, threatening, and light rain falling south of Farina, with fresh winds from S.E. to S.W., rising barometers and moderate to rough sea. Rain has fallen south of Quorn; greatest recorded at Nairne, 0·63 inch; Macclesfield, 0·55; Clare, 0·42; Cape Willoughby, 0·35; and very light at other stations.

Victoria.—Generally cloudy and unsettled, with rain falling in east parts, fresh southerly winds, almost steady barometers, and moderate to rough sea. Rainfall: Echuca, 3·55; Omeo, 1·37; Melbourne, 0·48; Wilson's Promontory, 1·50; Horsham, 0·46, and other stations smaller quantities.

Tasmania.—Generally more or less cloudy, with light southerly winds, fallen barometers, and moderate sea. No rain has fallen.

New Zealand.—Generally cloudy and unsettled, with S. to E. winds. Passing showers during the night over central parts. Showery at Bluff. Barometers: Russell and Wellington, 29·5; Bluff, 29·6.

New South Wales.—Generally cloudy and gloomy, with rain falling in north-east parts on both sides of the range; light S. to W. winds in west parts, northerly on the coast, and calms in places. Barometers are low and falling, and the sea smooth to moderate. Rain has fallen generally, heaviest west of the range. Coonabarabran reports 2·30 inches, and 12 stations in the watersheds of the Upper Murray, Murrumbidgee, and Lachlan Rivers had from 1 to 2 inches. Extra stations: Camden rainfall, 0·40 inch; Temora rainfall, 1·10, and still raining; Lake Cudgellico, max. 65°, min. 65, 0·36 inch rain, and threatening; Hill End, 1·23; Wilcannia, 0·50; and Gabo Island, 0·49 inches rain. For further particulars see map.

Queensland.—Generally cloudy, unsettled, and sultry, with light N. to W. winds, fallen barometers, and moderate sea. Rainfall: Townsville, 0·65; Port Mackay, 0·52; Cape Moreton, [illegible]11; Brisbane, 0·08; and Cooktown, 0·13 inches.

3 P.M. OBSERVATIONS.

Victoria.—Cape Otway, S.S.W., 34, cloudy, moderate sea, temperature 59°; Melbourne, S.W., 18, cloudy, temperature 61°; Cape Schanck, S., 13, cloudy and raining, moderate sea, temperature 64°; Wilson's Promontory, S.S.E., 34, cloudy and squally, rough sea, temperature 64°; Lakes Entrance, S.W., 36, showery and squally, temperature 61°.

New South Wales. Menindie, S.W., 28, overcast and showery, temperature 72°; Wentworth, S.S.E., 14, fine but cloudy, temperature 70°; Deniliquin, S., 14, dull, temperature 75°; [illegible], S.W., 42, like rain, smooth sea, temperature 73°; Cape St. George, N.W., 14, dull, smooth sea, temperature 76°; Sydney, N.W., 7, overcast, smooth sea, temperature 78°; Port Macquarie, N.N.[illegible], 42, thunderstorm coming on, smooth sea, temperature 80°; Clarence River, N.E., 14, fine and fresh, smooth sea, temperature 80°; Dubbo, W., 14, fine but cloudy, temperature 75°; Goulburn, W., 14, dull, temperature 73°.

HEIGHT OF RIVERS ABOVE SUMMER LEVEL.

Macintyre: At Mungindi, 23 feet 6 inches. Barwon: At Mogil Mogil, 21 feet; at Walgett, 35 feet. Namoi: At Walgett, 27 feet. Culgoa: At Goodooga, 4 feet 11 inches. Darling: At Brewarrina, 17 feet; at Bourke, 22 feet 3 inches; at Louth, 16 feet; at Tilpa, 19 feet 8 inches; at Wilcannia, 16 feet 3 inches; at Menindie, 20 feet 3 inches; at Pooncarie, 21 feet 1 inch; at Wentworth, 11 feet 7 inches. Murrumbidgee: At Gundagai, 3 feet; at Wagga, 2 feet 10 inches; at Hay, 7 feet; at Balranald, 11 feet 4 inches. Murray: At Albury, 7 inches; at Euston, 5 feet 2 inches.

ASTRONOMICAL MEMORANDA FOR FEBRUARY 18.

Sun rises at 5.40, sets at 6.48; Moon, 1.33 a.m., 3.17 p.m.; Mercury 6.16 a.m., 7.18 p.m.; Venus, 7.4 a.m., 7.44 p.m.; Mars, 6.49 a.m., 7.34 p.m.; Jupiter, 9.47 p.m., 10.57 a.m.; Saturn, 4.21 p.m., 2.17 a.m. Full moon, 8th; new moon, 23rd.

High water at Fort Denison, February 18: 4.22 a.m., 5 p.m.

METEOROLOGICAL REPORTS AND MAP FOR FEBRUARY 18, 1887.

Stations	Wt	Mx	Mn	R'n
Albury	c	83	58	0
Armidale	b	73	60	0·36
Balranald	b	83	52	0
Bathurst	r	74	55	0·13
Bend'm'r	u	70	60	0·97
Bodalla ..	u	89	56	0·30
Bourke ..	b	82	59	0·17
Br'w rrina	–	—	—	-
Bundarra	c	76	61	0·32
C'md'n H	b	81	68	1·42
C. St. Geo	c	87	59	0
Carcoar ..	r	75	46	0·32
Casino ..	b	90	64	0
Cassilis ..	u	75	63	0·23
Clarence	b	83	71	0·77
C'nd'b'lin	u	81	45	0·04
Cooma ..	o	66	47	0·38
Coonab'n	u	79	57	0·12
Cowra ..	u	77	60	0·27
Deniliq'n	b	86	47	0
Dubbo ..	b	80	58	0·01
Eden	b	79	59	0·11
Euston ..	b	79	50	0
Forbes ..	g	—	56	0·18
Gl'n Inn's	b	68	61	0·21
Goulburn	u	76	49	0·29
Grafton ..	b	90	67	0·51
Gulgong	u	78	50	0
Gunned'h	b	76	62	0·84
Hay	b	78	51	0
Inverell ..	c	76	62	0·86
Kiandra	c	61	37	0·81
Lismore	b	89	70	0·05
Maitland	u	82	66	0·10
Marsdens	o	78	60	0·16
Menindie	b	60	56	0
Molong ..	c	81	60	0·09
M'r'ng'r'll	c	75	58	0
Moree ..	b	83	63	0·17
Moruya ..	g	87	58	0·09
Moss Vale	r	75	53	0·28
Mt. Hope	u	76	55	0
M. Vict'ria	r	72	47	0·30
Mudgee	u	82	54	0
M'rr'mb'h	r	76	58	0·40
M'rr'r'ndi	b	71	64	0·28
Mus'lbr'k	c	84	59	0·13
Narrabri	b	80	66	0·68
Newcastle	g	77	68	1·21
Orange ..	c	72	53	0·08
Picton .	o	81	59	0·09
P. M'q'rie	b	81	64	1·03
P. St'ph'n	r	79	60	1·07
Q'nbeyan	r	73	54	0·34
Quirindi	c	81	62	0·25
Singleton	r	68	66	0·80
SYDNEY ..	o	81	66	0·36
Tamw'rth	–	—	—	–
Taralga ..	r	73	51	0·60
Taree ..	b	84	37	0·53
T'nt'rfield	b	81	59	0·30
Wagga ..	u	75	55	0·46
Walcha ..	b	68	53	0·48
Walgett ..	b	81	57	0·75
Warrah ..	n	75	60	0·45
W'ntw'rth	b	68	55	0
W'll'ng'ng	c	83	62	0·02
Young ..	r	80	54	0·20

SYDNEY OBSERVATORY.

LATITUDE 33° 51' 41" S LONGITUDE 10h. 4m. 50·81s. E

Average Annual Rainfall for 28 years ..... 49·489

Average for 29 years from January 1 to 31, 1887 .. 5·619

Total Rainfall from January 1 to Feb. 18, 1887 ... 10·079

Barometers corrected to 32° Fah. and Mean Sea Level

T. storm, wind S. Rain, wind W.

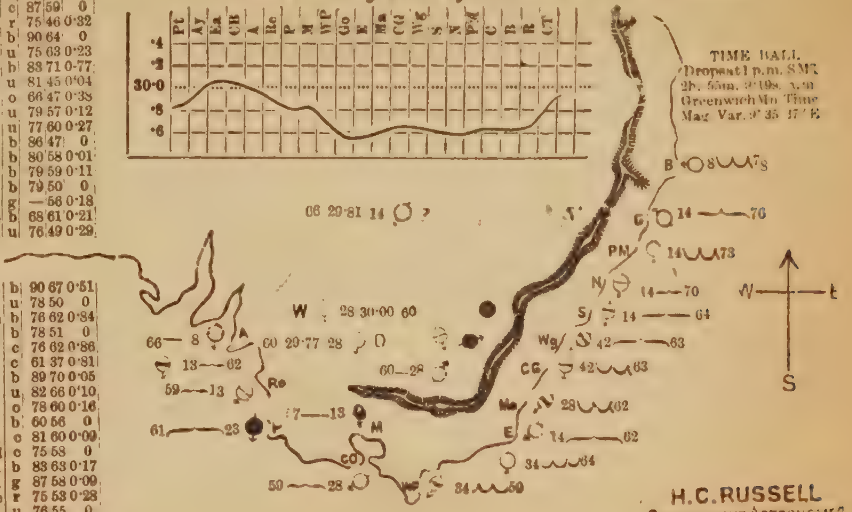
If it is CALM, the symbol is used without the arrow.

Smooth sea.

Heavy sea.

Very heavy sea.

Curve showing state of Barometer.



H. C. RUSSELL
GOVERNMENT ASTRONOMER

NOTES EXPLANATORY OF MAP.

In the list of stations the column headed W.T. gives the state of the weather at 9 a.m., b standing for blue sky; c, detached clouds; d, drizzling rain; f, fog; g, gloomy; h, hazy; m, misty; n, frosty; o, overcast; p, passing showers; r, rain; s, snow; t, thunder; u, threatening. The next column, M'x gives the maximum temperature for previous 24 hours. M'n the corresponding minimum temperature; r'n, the rain for the previous 24 hours. The symbols used in the map are explained on the margin. At each coast station the wind symbol is placed like a vane pointing to the direction from which the wind is coming. A clear circle with it means fine weather; a circle with bar, cloudy weather; and a black spot, raining. Next to this symbol are placed figures denoting the number of miles the wind is moving per hour; next, a symbol showing the state of the sea; and, lastly, figures denoting the shade temperature at 9 a.m. The barometer curve shows the state of barometers round the coast from Perth to Cooktown:—Pt, Perth; Ay, Albany; Ea, Eucla; CB, Cape Borda; A, Adelaide; Re, Robe; P, Portland; M, Melbourne; WP, Wilson's Promontory; Go, Gabo; E, Eden; Ma, Moruya; CG Jervis Bay; Wg, Wollongong; S, Sydney; N, Newcastle; PM, Port Macquarie; C, Clarence River; B, Brisbane; R, Rockhampton; Ct, Cooktown. Inland the state of barometer is given in figures at Albury, Deniliquin, Wentworth, Menindie, Bourke, and Alice Springs. The barometer curve enables one at a glance to trace the depressions, beginning with Western Australia, and passing along eastwards; northerly winds preceding them, and southerly following.

Western Australia.—Generally more or less cloudy, with light easterly winds, fallen barometers, and moderate sea. Rainfall: 0.30 inch at Geraldton.

South Australia.—Generally cloudy and unsettled south of Port Augusta, with light S.E. to S.W. winds, risen barometers, and smooth to moderate sea. Rainfall: Tennant's Creek, 1.44; and M'Donnell Bay, 0·04 inch.

Victoria.—Generally cloudy and cool, with passing showers of misty rain west of Melbourne, fresh southerly winds, rising barometers, and rough sea on S.E. coast, moderate to west; squally at Wilson's Promontory. Rainfall: Lakes Entrance, 0·36; Melbourne, 0·17; Omeo, 0·10; and Portland, 0·01 inch.

Tasmania.—Generally fine, with clouds in places, light S.E. to S.W. winds, fallen barometers, and moderate sea.

New Zealand.—Russell, fine, with S.W. wind, and barometer at 29·7; Wellington, fine and sultry, with N.W. wind, barometer 29·6; Bluff, gloomy, with S.E. wind, barometer 29·5.

New South Wales.—Generally cloudy, gloomy, and unsettled, with light rain falling on the Lachlan and Hunter rivers. Fresh, cool, southerly winds, rising barometers, and moderate to rough sea. Fine clear weather in north parts. Rain has fallen generally; heaviest in north coast districts. Extra stations: Temora rainfall, 0·60 inch, and cool, threatening weather; Tumut rainfall, 2·66 inch since 8 p.m., 16th instant; Hill End rainfall, 0·20 inch, and cloudy; Gabo Island rainfall, 0·83 inch; Lake Cudgellico, max. 66°, min. 56°, cloudy and cold. For further particulars see map.

Queensland.—Generally fine and hot, with light variable winds and calms, fallen barometers, and moderate to rough sea. Heavy thunderstorm and shower during the night in south coast districts; 1·14 inch rain fell at Brisbane in 15 minutes.

3 P.M. OBSERVATIONS.

Victoria.—Portland, S.W., 34, fine but cloudy, smooth sea, temperature 64°; Melbourne, S., 18, cloudy, temperature 64°; Cape Schanck, S.W., 23, cloudy and misty, moderate sea, temperature 63°; Wilson's Promontory, W.S.W., 40, cloudy and squally, rough sea, temperature 61°; Lakes Entrance, W., threatening, temperature 65°.

New South Wales.—Menindie, S., 28, cloudy, temperature 68°; Wentworth, S., 28, cloudy, temperature 68°; Deniliquin, S., 14, dull, temperature 71°; Eden, S.W., 28, cloudy and dull, smooth sea, temperature 68°; Moruya, S.S.E., 28, fine, rough sea, temperature 71°; Sydney, S.S.W., 15, overcast and gloomy, moderate sea, temperature 65°; Newcastle, S., 14, dull, moderate sea, temperature 67°; Port Macquarie, S.S.E., 42, fine, moderate sea, temperature 80°; Walgett, S.W., 14, fine, temperature 77°; Dubbo, N.W., 14, fine but cloudy, temperature 67°; Goulburn, S., 14, showery, temperature 67°.

HEIGHT OF RIVERS ABOVE SUMMER LEVEL.

Macintyre: At Mungindi, 23 feet 6 inches. Barwon: At Mogil Mogil, 21 feet; at Walgett, 35 feet 4 feet. Namoi: At Walgett, 27 feet 6 inches. Culgoa: At Goodooga, 5 feet. Darling: At Brewarrina, 17 feet 9 inches; at Bourke, 23 feet 1 inch; at Louth, 17 feet 6 inches; at Tilpa, 20 feet 6 inches; at Wilcannia, 17 feet 8 inches; at Menindie, 20 feet 5 inches; at Pooncarie, 22 feet; at Wentworth, 11 feet 7 inches. Murrumbidgee: At Gundagai, 3 feet; at Wagga, 2 feet 6 inches; at Hay, 6 feet; at Balranald, 11 feet 6 inches. Murray: At Albury, 1 foot; at Euston, 5 feet 4 inches.

ASTRONOMICAL MEMORANDA FOR FEBRUARY 19.

Sun rises at 5.40, sets at 6.47; Moon, 2.23 a.m., 4.7 p.m.; Mercury 6.21 a.m., 7.18 p.m.; Venus, 7.6 a.m., 7.43 p.m.; Mars, 6.4 a.m., 7.32 p.m.; Jupiter, 9.43 p.m., 10.53 a.m.; Saturn, 4.1 p.m., 2.13 a.m. Full moon, 8th; new moon, 23rd.

High water at Fort Denison, February 19: 5·33 a.m., 6.6 p.m.

METEOROLOGICAL REPORTS AND MAP FOR FEBRUARY 19, 1887.

Stations	Wt.	Mx.	Mn	R'in
Albury	b	76	54	0
Armidale	b	73	61	0
Balranald	b	81	40	0
Bathurst	b	61	46	0·71
Bend'm'r	c	80	55	0·03
Bodalla ..	b	84	62	0
Bourke ..	b	80	56	0
Br'w'rrina	–	—	—	-
Bundarra	b	74	59	0
C'md'n H	b	75	63	0·11
C. St. Geo	b	73	56	0
Carcoar .	b	67	38	0·04
Casino ..	b	90	64	0
Cassilis ..	b	70	57	0·04
Clarence	b	80	68	0
C'nd'b'lin	b	84	39	0
Cooma ..	b	67	41	0
Coonab'n	..	73	46	0
Cowra ..	b	74	56	0
Deniliq'n	b	78	45	0
Dubbo ..	b	67	46	0
Eden	b	73	55	0·01
Euston ..	b	80	68	0
Forbes ..	b	—	52	0
Gl'n Inn's	b	76	42	0
Goulburn	b	61	46	0·07
Grafton ..	b	91	68	0
Gulgong	b	91	50	0
Gunned'h	b	77	58	0
Hay	b	79	51	0
Inverell...	b	76	54	0
Kiandra	b	61	35	0
Lismore	b	89	70	0
Maitland	b	75	57	0·05
Marsdens	b	73	58	0
Menindie	b	63	57	0
Molong ..	b	70	45	0·05
M'r'ng'r'll	b	70	52	0
Moree ..	b	83	58	0
Moruya..	b	73	66	0
Moss Vale	b	60	51	0
Mt. Hope	b	78	56	0
M. Vict'ria	b	72	45	0·22
Mudgee	b	72	52	0·01
M'rr'mb'h	b	72	52	0·03
M'rr'r'ndi	b	72	59	0·05
Mus'lbr'k	b	79	54	0·52
Narrabri	b	83	57	0
Newcastle	b	76	58	0·04
Orange ..	b	62	44	0·05
Parkes ton .	b	68	50	-
P. M'q'rie	b	77	58	0
P. St'ph'n	b	71	53	0·91
Q'nbeyan	b	66	51	0·09
Quirindi	b	78	58	0
Singleton	b	73	62	0·32
SYDNEY ..	b	69	58	0·03
Tamw'rth	–	—	—	-
Taralga ...	b	68	45	0
Taree ..	b	81	61	0·27
T'nt'rfield	b	76	47	0
Wagga ..	b	78	44	0
Walcha ..	o	68	46	0·02
Walgett..	b	76	54	0
Warrah ..	b	73	60	0·04
W'ntw'rth	b	74	59	0
W'll'ng'ng	b	72	60	0
Young ..	b	75	45	0·08

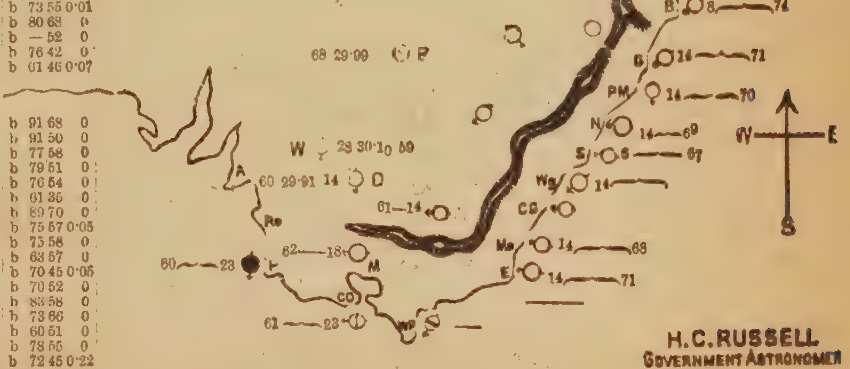
SYDNEY OBSERVATORY.
LATITUDE 33° 51' 41" S   LONGITUDE 10h. 4m. 50·81s. E

Average Annual Rainfall for 28 years...... ..... 49·480
Average for 29 years from January 1 to 31, 1887.... 3·610
Total Rainfall from January 1 to Feb. 19, 1887 ...10·104
Barometers corrected to 32° Fah. and Mean Sea Level

Curve showing state of Barometer.

Fine, wind N. Cloudy in E. T. storm, wind S. Rain, wind W.
If it is CALM, the symbol is used without the arrow
Smooth sea.
Heavy sea
Very heavy sea.

TIME BALL
Dropsat 1 p.m. S.M.T
2h. 55m. 9·19s. a.m
Greenwich Mn Time
Mag Var. 9° 38' 37" E



H. C. RUSSELL
GOVERNMENT ASTRONOMER

NOTES EXPLANATORY OF MAP.

In the list of stations the column headed W.T. gives the state of the weather at 9 a.m., b standing for blue sky; c, detached clouds; d, drizzling rain; f, fog; g, gloomy; h, hazy; m, misty; b, frosty; o, overcast; p, passing showers; r, rain; s, snow; t, thunder; u, threatening. The next column, M'x gives the maximum temperature for previous 24 hours. M'n the corresponding minimum temperature; r'n, the rain for the previous 24 hours. The symbols used in the map are explained on the margin. At each coast station the wind symbol is placed like a vane pointing to the direction from which the wind is coming. A clear circle with it means fine weather; a circle with bar, cloudy weather; and a black spot, raining. Next to this symbol are placed figures denoting the number of miles the wind is moving per hour; next, a symbol showing the state of the sea; and, lastly, figures denoting the shade temperature at 9 a.m. The barometer curve shows the state of barometers round the coast from Perth to Cooktown:—Pt, Perth; Ay, Albany; Ea, Eucla; CB, Cape Borda; A, Adelaide; Re, Robe; P, Portland; M, Melbourne; WP, Wilson's Promontory; Go, Gabo; E, Eden; Ma, Moruya; CG Jervis Bay; Wg, Wollongong; S, Sydney; N, Newcastle; PM, Port Macquarie; C, Clarence River; B, Brisbane; R, Rockhampton; Ct, Cooktown. Inland the state of barometer is given in figures at Albury, Deniliquin, Wentworth, Menindie, Bourke, and Alice Springs. The barometer curve enables one at a glance to trace the depressions, beginning with Western Australia, and passing along eastwards; northerly winds preceding them, and southerly following.

South Australia.—Generally fine south of Burra and east of Cape Borda, with scattered clouds in the rest of the colony.

Victoria.—Generally cloudy and unsettled, with passing showers of misty rain on the south coast, light to fresh S. and west winds, rising barometers, and moderate sea. Rainfall: Cape Schanck, 0·07, and Ballarat, 0·04 inch.

Tasmania.—Fine, but cloudy in north, showery, with hail, in south, fresh squally S. to W. winds, risen barometers, and moderate to rough sea. Rainfall: Southport, 0.10, and Hobart, 0·08 inch.

New Zealand.—Fine in north, with strong N.W. wind; passing showers from S.W. at Bluff. On the West coast strong N.W. wind, and rough sea. Barometers: Russell, 29·9; Wellington 29·6; and Bluff, 29·1.

New South Wales.—Generally fine, clear, and cool, with light W. to S. and S.E. winds, rising barometers, and smooth to moderate sea. Light rain has fallen in scattered places, chiefly on and near the range, and heaviest on the Hunter River. Reading of the standard barometer at Sydney, corrected to 32° Fahr. and mean sea level, at 9 a.m., 29·839. Extra stations: Hill End rainfall, 0·30 inch; Lake Cudgellico, max. 82°, min. 56°, fine and clear. For further particulars see map.

Queensland.—Generally fine and cool, calm in north, light S. to E. winds in S. and W. parts, sea moderate. Thunderstorm during the night at Cooktown, 0·49 inch rain fallen. Lightning during night at Cape Moreton. Rainfall: Brisbane, 0·01 inch; Rockhampton, 0·09 inch.

3 P.M. OBSERVATIONS.

Victoria.—Portland, S.E., 24, fine, smooth sea; Cape Otway, lines interrupted; Melbourne, no observations; Wilson's Promontory, line interrupted.

New South Wales.—Eden, W.S.W., 28, fine, smooth sea, temperature 73°; Moruya, N.E., 30, fine, smooth sea, temperature 76°; Cape St. George, S.E., 28, fine, moderate sea, temperature 73°; Sydney, N.E., 10, fine, smooth sea, temperature 74°; Newcastle, W., 10, fine, no sea, temperature 76°; Port Macquarie, S.E., 14, fine, moderate sea, temperature 80°; Goulburn, N., 10, fine, temperature 68°.

Queensland.—Brisbane, E.N.E., cloudy, barometer 29·79, temperature 81°.

HEIGHT OF RIVERS ABOVE SUMMER LEVEL.

MacIntyre: At Mungindi, 20 feet 10 inches. Barwon: At Mogil Mogil, 20 feet 9 inches; at Walgett, 35 feet 6 inches. Namoi: At Walgett, 27 feet 6 inches. Culgoa: At Goodooga, 5 feet 4 inches. Darling: At Brewarrina, 18 feet 8 inches; at Bourke, 23 feet 11 inches; at Louth, 18 feet 6 inches; at Tilpa, 21 feet; at Wilcannia, 18 feet 8 inches; at Menindie, 20 feet 6 inches; at Wentworth, 11 feet 7 inches. Murrumbidgee: At Gundagai, 3 feet 8 inches; at Wagga, 2 feet 9 inches; at Hay, 5 feet 6 inches; at Balranald, 11 feet 8 inches. Murray: At Albury, 1 foot 9 inches; at Euston, 5 feet 8 inches.

ASTRONOMICAL MEMORANDA FOR FEBRUARY 21.

Sun rises at 5.42, sets at 6.45; Moon, 4.9 a.m., 5.35 p.m.; Mercury 6.32 a.m., 7.20 p.m.; Venus, 7.10 a.m., 7.42 p.m.; Mars, 6.49 a.m., 7.29 p.m.; Jupiter, 9.36 p.m., 10.46 a.m.; Saturn, 4.8 p.m., 2.4 a.m. Full moon, 8th; new moon, 23rd.

High water at Fort Denison, February 21: 7.20 a.m., 7.42 p.m.

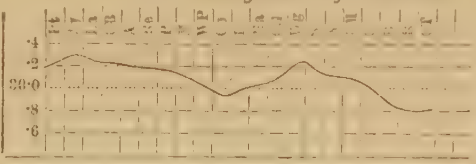
METEOROLOGICAL REPORTS AND MAP FOR ... 1887.

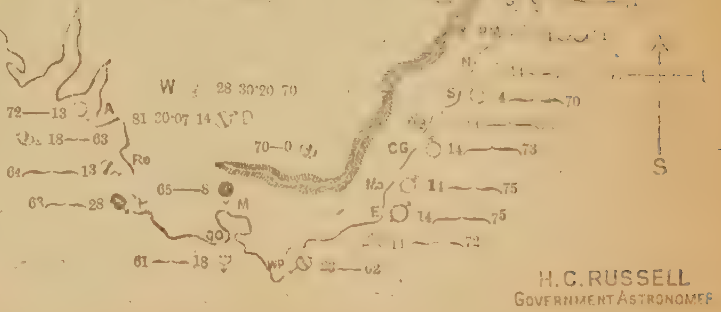
Station	W.T.	Mx	Mn	Rn
Albu[illegible]				
Armidale	b	73	55	0
Balranald	b	102	68	0
Bathurst	b	79	49	0
Bend'm'r	b	77	50	0
Bodalla ..	b	82	56	0
Bourke ..	b	92	65	0
Br'w rrina	–	—	—	–
Bundarra	b	80	56	0
C'md'n H	g	80	67	0
C.St.Geo	b	76	61	0
Carcoar ..	b	72	51	0
Casino ..	r	82	70	0·14
Cassilis ..	b	74	59	0
Clarence	r	81	70	0
C'nd'b'lin	b	91	51	0
Cooma ..	b	84	51	0
Coonab'n	b	8[illegible]	5[illegible]	
Cowra ..	b	95	65	0
Deniliq'n	c	99	62	0
Dubbo ..	b	87	58	0
Eden	b	76	33	0
Euston ..	b	106	66	0
Forbes ..	b	—	56	0
Gl'n Inn's	o	79	56	0
Goulburn	b	82	50	0
Grafton ..	c	82	67	0
Gulgong	b	77	50	0
Gunned'h	b	84	61	0
Hay	c	98	69	0
Inverell ..	b	78	58	0
Kiandra	b	80	39	0
Lismore	r	80	69	0·46
Maitland	b	83	62	0
Marsdens	b	86	66	0
Menindie	b	78	71	0
Molong ..	b	79	51	0
M'r'ng'r'll	b	84	59	0
Moree ..	b	92	60	0
Moruya ..	b	80	62	0
Moss Vale	b	71	56	0
Mt. Hope	b	92	67	0
M.Vict'ria	b	75	48	0
Mudgee	b	85	53	0
M rr'mb'h	b	75	58	0
M'rr'r'ndi	b	75	57	0
Mus'lbr'k	b	87	53	0
Narrabri	b	87	54	0
Newcastle	b	78	67	0
Orange ..	b	74	50	0
Picton ..	f	77	53	0
P. M'q'rie	c	79	64	0
P. St'ph'n	b	81	59	0
Q'nbeyan	b	75	58	0
Quirindi	b	85	62	0
Singleton	b	79	63	0
SYDNEY ..	b	77	61	0
Tamw'rth	–	—	—	–
Taralga ..	b	71	48	0
Taree ..	b	81	64	0·02
T'nt'rfield	g	70	66	0
Wagga ..	b	91	61	0
Walcha ..	b	68	47	0
Walgett ..	b	91	59	0
Warrah ..	b	81	53	0
W'ntw'rth	b	103	67	0
W'll'ng'ng	b	81	68	0
Young ..	b	91	54	0

Average Annual Rainfall for 28 years...... 49·1[illegible]
Average for 28 years from January 1 to 31, 18[illegible] ... 3·C19
Total Rainfall from January 1 to Feb. 23, 1887 ... 10·454
Barometers corrected to 32° Fah. and Mean Sea Level

[illegible] Light ... when ... it is calm the ... used without the arrow. ... Smooth sea. ... Heavy sea. ... Very heavy sea.

Curve showing state of Barometer.





H. C. RUSSELL
GOVERNMENT ASTRONOMER

NOTES EXPLANATORY OF MAP.

In the list of stations the column headed W.T. gives the state of the weather at 9 a.m., b standing for blue sky; c, detached clouds; d, drizzling rain; f, fog; g, gloomy; h, hazy; m, misty; n, frosty; o, overcast; p, passing showers; r, rain; s, snow; t, thunder; u, threatening. The next column. M'x gives the maximum temperature for previous 24 hours. M'n the corresponding minimum temperature; R'n, the rain for the previous 24 hours. The symbols used in the map are explained on the margin. At each coast station the wind symbol is placed like a vane pointing to the direction from which the wind is coming. A clear circle with it means fine weather; a circle with bar, cloudy weather; and a black spot, raining. Next to this symbol are placed figures d[illegible] the number of miles the wind is moving per hour; next, a symbol showing the state of the sea; and, lastly, figures denoting the shade temperature at 9 a.m. The barom[illegible] curve shows the state of barometers round the coast from Perth to Cooktown:—Pt, Perth; Ay, Albany; Ea, Eucla; CB, Cape Borda; A, Adelaide; Ro, Robe; P, Portland; M, Melbourne; WP, Wilson's Promontory; Go, Gabo; E, Eden; Ma, Moruya; CG, Jervis Bay; Wg, Wollongong; S, Sydney; N, Newcastle; PM, Port Macquarie; [illegible] River; B, Brisbane; R, Rockhampton; C, [illegible] [illegible] is given in [illegible] at Albany, [illegible] Springs. The barometer [illegible] beginning with Western Au[illegible] passing along eastwards, northerly winds [illegible] ceding them, and southerly following.

Western Australia.—Fine along the west coast, cloudy and gloomy in south, with light S. to E. winds. fallen barometers, and smooth sea.

South Australia.—Generally fine, with scattered clouds; light S. to S.E. winds, risen barometers, and moderate sea. Overcast on parts of the coast; misty rain falling at Eucla.

Victoria.—Generally cloudy and unsettled, with fresh southerly winds, risen barometers, and moderate sea. Passing showers of misty rain on the coast. Rainfall: Ballarat, 0·06; Cape Schanck, 0·03; Portland, 0·02; and Cape Otway, 0·01 inch.

Tasmania.—Generally more or less cloudy and unsettled, with fresh to strong south and west winds, fallen barometers, and moderate sea; misty rain falling at Hobart. Rainfall: Southport, 0·19; Low Heads, 0.04; and Hobart, 0·02 inch.

New Zealand.—Generally fine, with N.W. winds in parts south of Wellington; cloudy, with strong S.E. wind in extreme north. Barometers: Russell, 30·4; Wellington, 30·3; and Bluff, 30·1.

New South Wales.—Generally fine, clear, and warm, with clouds in north-east parts, and light showers falling in the Clarence districts; light, variable winds and calms, falling barometers, and smooth to moderate sea; rough sea at Camden Haven and Port Macquarie. Light rain has fallen at a few places in north, the heaviest being at Lismore. Reading of the standard barometer at Sydney, corrected to 32° Fahr. and mean sea level, at 9 a.m., 30·124. Extra station: Lake Cudgellico, max. 78°, min. 65°, fine, clear, and warm. For further particulars see map.

Queensland.—Showery and overcast in S.E., fine but cloudy in N.E., fine, clear, and warm inland; light S. to E. winds, fresh in places, falling barometers, and moderate to rough sea. Rainfall: Cape Moreton, 0·30; Rockhampton and Brisbane, 0·01 inch.

3 P.M. OBSERVATIONS.

Victoria.—Portland, S.E., 28, fine, smooth sea, temperature 66°; Cape Otway, S., 34, cloudy, smooth sea, temperature 61°; Melbourne, S.E., 13, cloudy, temperature 67°; Cape Schanck, S., 13, cloudy and misty, smooth sea, temperature 70°; Wilson's Promontory, S.W., 23, cloudy, squally, moderate sea, temperature 66°; Lakes Entrance, S.W., 18, cloudy, temperature 69°.

New South Wales.—Menindie, E., 14, fine and hot, temperature 85°; Wentworth, S., 14, fine, temperature 7[illegible]°; Deniliquin, calm, fine and hot, temperature 71°; Eden, S.E., 14, fine, smooth sea, temperature 77°; Moruya, S.E., 14, fine, smooth sea, temperature 83°; Cape St. George, N.E., 41, fine, smooth sea, temperature 76°; Sydney, E.N.E., 19, fine, hazy, and hot, moderate sea, temperature 75°; Newcastle, S.E., 14, fine, smooth sea, temperature 75°; Port Macquarie, S.S.E., 11, overcast, moderate sea, temperature 83°; Clarence River, S., 14, showery, moderate sea, temperature 76°; Walgett, S.E., 14, fine, temperature 83°; Dubbo, S., 14, fine, temperature 78°; Goulburn, S.W., 14, fine, temperature 72°.

HEIGHT OF RIVERS ABOVE SUMMER LEVEL.

Macintyre: At Mungindi, 20 feet. Barwon: At Mogil Mogil, 21 feet 5 inches; at Walgett, 35 feet. Namoi: At Walgett, 27 feet. Culgoa: At Goodooga, 6 feet. Darling: At Brewarrina, 20 feet 6 inches; at Bourke, 26 feet 8 inches; at Louth, 21 feet; at Tilpa, 23 feet; at Wilcannia, 21 feet 10 inches; at Menindie, 20 feet 10 inches; at Pooncarie, 21 feet 5 inches; at Wentworth, 11 feet 3 inches. Murrumbidgee: At Gundagai, 3 feet; at Wagga, 5 feet 6 inches; at Hay, 3 feet 6 inches; at Balranald, 12 feet 4 inches. Murray: At Albury, 1 foot 5 inches; at Euston, 5 feet 4 inches.

ASTRONOMICAL MEMORANDA FOR FEBRUARY 24.

Sun rises at 5.45, sets at 6.41; Moon, 6.50 a.m., 7.22 p.m.; Mercury, 6.47 a.m., 7.20 p.m.; Venus, 7.16 a.m., 7.39 p.m.; Mars, 6.49 a.m., 7.23 p.m.; Jupiter, 9.24 p.m., 10.34 a.m.; Saturn, 3.56 p.m., 1.52 a.m. Full moon, 8th; new moon, 23rd.

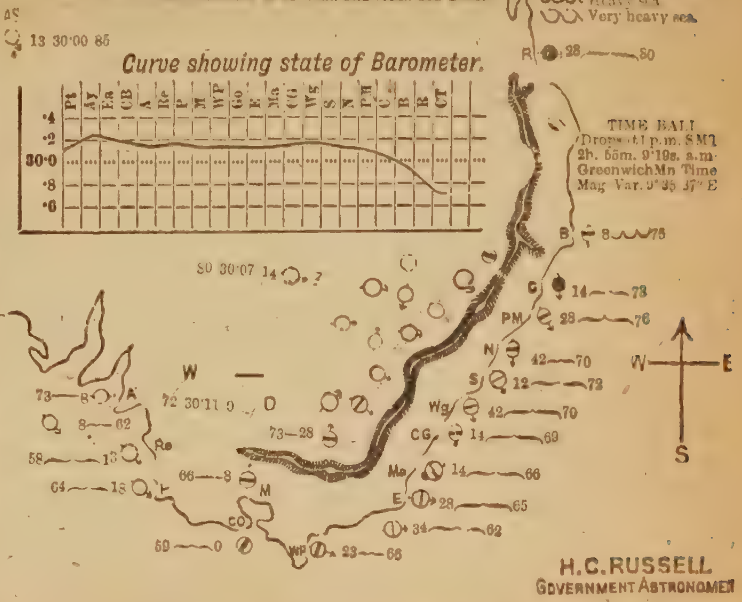
High water at Fort Denison, February 24: 9.13 a.m., 9.30 p.m.

METEOROLOGICAL REPORTS AND MAP FOR FEBRUARY 24, 1887.

Stations	W.T.	Mx	Mn	R'fn
Albury	c	95	64	0
Armidale	g	73	63	0
Balranald	b	1?7	62	0
Bathurst	c	83	55	0
Bend'm'r	u	81	61	0
Bodalla ..	g	91	65	0
Bourke ..	b	91	67	0
Br'w rrina	–	—	—	–
Bundarra	b	83	65	0
C'md'n H	r	80	71	0·70
C.St.Geo	c	78	66	0
Carcoar ..	b	75	63	0
Casino ..	r	78	67	0·95
Cassilis ..	o	77	66	0
Clarence	r	78	72	0·76
C'nd'b'lin	b	96	61	0
Cooma ..	o	90	58	0·07
Coonab'n	b	84	56	0
Cowra ..	b	96	67	0
Deniliq'n	b	101	53	0
Dubbo ..	b	88	59	0
Eden	u	70	65	0·01
Euston ..	–	—	—	–
Forbes ..	b	—	51	0
Gl'n Inn's	c	78	61	0
Goulburn	b	89	60	0
Grafton ..	c	82	71	0
Gulgong	b	80	56	0
Gunned'h	b	91	67	0
Hay	b	96	62	0
Inverell ..	b	84	63	0
Kiandra	c	83	50	0
Lismore	r	78	72	0·62
Maitland	r	86	67	0·15
Marsdens	b	88	70	0
Menindie	–	—	—	–
Molong ..	b	79	55	0
M'r'ng'r'll	b	86	67	0
Moree ..	b	96	68	0
Moruya ..	g	82	66	0
Moss Vale	b	77	59	0
Mt. Hope	b	98	68	0
M. Vict'ria	u	84	53	0
Mudgee	b	89	57	0
M'r'mb'h	b	89	60	0
M'rr'r'ndi	u	77	64	0
Mus'lbr'k	c	84	62	0·01
Narrabri	b	86	67	0
Newcastle	g	80	69	0·39
Orange ..	b	75	54	0
Paterson .	f	80	53	0
P. M'q'rie	c	81	68	1·25
P. St'ph'n	u	82	67	0
Q'nbeyan	g	80	64	0
Quirindi	b	87	67	0
Singleton	r	78	64	0·20
SYDNEY ..	g	77	67	0
Tamw'rth	–	—	—	–
Taralga ..	b	89	50	0
Taree ..	r	83	66	1·14
T'nt'rfield	g	76	67	0
Wagga ..	b	93	65	0
Walcha ..	b	74	58	0
Walgett ..	b	87	65	0
Warrah ..	b	87	58	0
W'ntw'rth	–	—	—	–
W'll'ng'ng	g	82	67	0
Young ..	b	96	60	0

SYDNEY OBSERVATORY.
LATITUDE 33° 51' 41" S LONGITUDE 10h. 4m. 50·81s. E

Average Annual Rainfall for 28 years...... ... 49·489
Average for 28 years from January 1 to 31, 1887... 3·049
Total Rainfall from January 1 to Feb 24, 1887 . 10·464
Barometers corrected to 32° Fah. and Mean Sea Level



NOTES EXPLANATORY OF MAP.

In the list of stations the column headed W.T. gives the state of the weather at 9 a.m., b standing for blue sky; c, detached clouds; d, drizzling rain; f, fog; g, gloomy; h, hazy; m, misty; n, frosty; o, overcast; p, passing showers; r, rain; s, snow; t, thunder; u, threatening. The next column. M'x gives the maximum temperature for previous 24 hours. M'n the corresponding minimum temperature; r'n, the rain for the previous 24 hours. The symbols used in the map are explained on the margin. At each coast station the wind symbol is placed like a vane pointing to the direction from which the wind is coming. A clear circle with it means fine weather; a circle with bar, cloudy weather; and a black spot, raining. Next to this symbol are placed figures denoting the number of miles the wind is moving per hour; next, a symbol showing the state of the sea; and, lastly, figures denoting the shade temperature at 9 a.m. The barometer curve shows the state of barometers round the coast from Perth to Cooktown:—Pt, Perth; Ay, Albany; Ea, Eucla, CB, Cape Borda; A, Adelaide; Re, Robe; P, Portland; M, Melbourne; W P, Wilson's Promontory; Go, Gabo; E, Eden; Ma, Moruya; C G Jervis Bay; Wg, Wollongong; S, Sydney; N, Newcastle; P M, Port Macquarie; C, Clarence River; B, Brisbane; R, Rockhampton; Ct, Cooktown. Inland the state of barometer is given in figures at Albury, Deniliquin, Wentworth, Menindie, Bourke, and Alice Springs. The barometer curve enables one at a glance to trace the depressions, beginning with Western Australia, and passing along eastwards; northerly winds preceding them, and southerly following.

Western Australia.—Generally fine, with clouds in south parts, light S. to E. winds, fallen barometers, and smooth to moderate sea. Extremes of barometers and temperature: Albany 30·26; Cossack, 29·83; Carnarvon, 81°; and Esperance Bay, 63°.

South Australia.—Generally fine, with scattered clouds in parts, light S. to E. winds, fallen barometers, and smooth sea. Rainfall: Port Darwin, 1·33; Yam Creek, 0·07; and Eucla 0·01 inch. Extremes of barometers and temperature: Cape Borda, 30·20; Daly Waters, 29·83 and 87°; Robe, 58°.

Victoria.—Generally more or less cloudy, with light to fresh easterly winds, steady barometers, and moderate sea; misty and foggy on the coast. Rainfall: Lakes Entrance 0·07, and Wilson's Promontory 0·04 inch. Extremes of barometers and temperature: Cape Otway, 30·22 and 59°; Ballarat, 30·11; and Echuca, 74°.

Tasmania.—Generally fine, with light and variable winds, risen barometers, and smooth sea; hoar frost during the night at Southport. Extremes of barometers and temperature: Low Heads, 30·27 and 60°; Southport, 30·26 and 55°.

New Zealand.—Fine on North Island, with N.W. to S.W. winds. Showery at Bluff from E. Barometers: In extreme north, 30·3; to southward, 30·2.

New South Wales.—Generally fine west of the range, cloudy and unsettled in the eastern division, with showery weather in north coast districts, light to fresh S. and E. winds, risen barometers and smooth to moderate sea. Light rain has fallen in the eastern division. chiefly in north parts, and heaviest in the districts between Manning and Macleay Rivers. Extremes of barometers and temperature at 9 a.m.:—Wollongong, 30·18; Dubbo, 30·0; Bourke, 80°; and Kiandra, 55°. Reading of the standard barometer at Sydney, corrected to 32° Fahr. and mean sea level, at 9 a.m., 30·156. Extra station: Lake Cudgellico, max. 80°, min. 69°, fine, clear, and cool. For further particulars see map.

Queensland.—Cloudy, unsettled, and cool in S.E. parts, with fresh S.E. to E. winds, fallen barometers, and moderate to rough sea. Passing showers, and squally at Rockhampton. Rainfall: Cape Moreton, 2·25; Rockhampton, 0·67; Brisbane, 0·40; and Roma, 0·20 inches. No reports from north parts.

3 P.M. OBSERVATIONS.

Victoria.—Portland, S.E., 30, fine, smooth sea, temperature 68°; Cape Otway, S.S.E., 36, misty, smooth sea, temperature 74°; Melbourne, S.S.W., 12, fine, temperature 76°; Cape Schanck, E., 24, misty, moderate sea, temperature 74°; Wilson's Promontory, E.N.E., 36, squally, rough sea, temperature 63°; Lakes Entrance, E., 36, squally, no sea, temperature 69°; Brisbane, S.S.E., overcast and misty rain, temperature 74°.

New South Wales.—Menindie, calm, fine, temperature 86°; Wentworth, S., 14, fine, temperature 77°; Deniliquin, calm, fine, temperature 85°; Eden, E., 14, overcast and threatening, smooth sea, temperature 69°; Moruya, S., 28, raining thick, moderate sea, temperature 66°; Cape St. George, S.E., 28, fine but cloudy, moderate sea, temperature 74°; Sydney, N.E., 17, cloudy, dull, and squally, moderate sea, temperature 74°; Newcastle, S.S.E, 14, showery, smooth sea, temperature 76°; Port Macquarie, S.E., 28, fine, moderate sea, temperature 84°; Clarence River, S.E., 14, cloudy, smooth sea, temperature 79°; Walgett, E., 14, fine and clear, temperature 87°; Dubbo, E.N.E., 14, fine, temperature 81°; Goulburn, N.E., 14, fine, temperature 71°.

HEIGHT OF RIVERS ABOVE SUMMER LEVEL.

Macintyre: At Mungindi, 19 feet 6 inches. Barwon: At Mogil Mogil, 21 feet; at Walgett, 34 feet 8 inches. Namoi: At Walgett, 26 feet 8 inches. Culgoa: At Goodooga, 6 feet 4 inches. Darling: At Brewarrina, 21 feet; at Bourke, 27 feet 2 inches; at Louth, 21 feet 9 inches; at Tilpa, 24 feet; at Wilcannia, 22 feet 4 inches. Murrumbidgee: At Gundagai, 3 feet; at Wagga, 5 feet; at Hay, 3 feet 3 inches; at Balranald, 11 feet 8 inches. Murray: At Albury, 1 foot.

ASTRONOMICAL MEMORANDA FOR FEBRUARY 25.

Sun rises at 5.46, sets at 6.40; Moon, 7.43 a.m., 7.53 p.m.; Mercury, 6.52 a.m., 7.19 p.m.; Venus, 7.18 a.m., 7.39 p.m; Mars, 6.48 a.m., 7.21 p.m.; Jupiter, 9.20 p.m., 10.30 a.m.; Saturn, 3.52 p.m., 1.48 a.m. Full moon, 8th; new moon, 23rd.

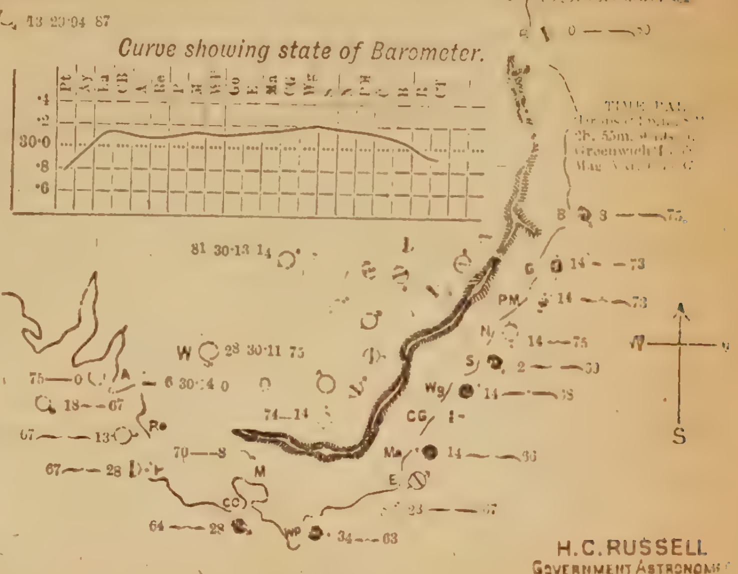
High water at Fort Denison, 9.46 a.m.; 10.1 p.m.

METEOROLOGICAL REPORTS AND MAP FOR FEBRUARY 25, 18[illegible]

Stations	wt	Mx	Mn	R'in
Albury	b	92	68	0
Armidale	g	77	62	0
Balranald	b	107	68	0
Bathurst	c	74	50	0
Bend'm'r	c	81	65	0
Bodalla ..	g	82	[illegible]	[illegible]
Bourke ..	b	105	77	0
Br'w'rrina	-	--	--	-
Bundarra	u	84	69	0·27
[illegible]nd'n H	c	80	73	0
C. St. Geo	c	78	66	0
Carcoar ..	[illegible]	[illegible]	[illegible]	0
Casino ..	c	[illegible]	[illegible]	[illegible]
Cassilis ..	o	[illegible]	[illegible]	[illegible]
Clarence	r	92	[illegible]	[illegible]
C'nd'b'lin	b	[illegible]	[illegible]	0
Cooma ..	c	78	58	0
Coonab'n	c	82	65	0
Cowra ..	b	91	63	0
Deniliq'n	b	101	64	0
Dubbo ..	b	89	65	0
Eden	u	71	65	0·18
Euston ..	b	100	62	0
Forbes ..	b	—	66	0
Gl'n Inn's	u	75	64	0
Goulburn	g	79	59	0
Grafton ..	u	85	73	0·03
Gulgong	o	80	57	0
Gunned'h	b	88	70	0
Hay	b	98	72	0
Inverell ..	c	85	65	0
Kiandra	b	68	49	0
Lismore	o	81	74	0·28
Maitland	g	78	66	0
Marsdens	b	91	71	0
Menindie	b	82	73	0
Molong ..	b	83	54	0
M'r'ng'r'll	g	85	61	0
Moree ..	u	99	73	0
Moruya ..	r	74	65	0·34
Moss Vale	b	70	61	0
Mt. Hope	b	98	54	0
M. Vict'ria	c	66	53	0·07
Mudgee	b	81	57	0
M'rr'mb'h	b	86	45	0
M'rr'r'ndi	u	78	63	0
Mus'lbr'k	u	82	64	0
Narrabri	g	96	77	0
Newcastle	b	77	69	0·02
Orange ..	b	78	57	0
Picton .	r	75	58	0·03
P. M'q'rie	r	81	67	0·10
P. St'ph'n	g	81	64	0
Q'nbeyan	c	74	61	0
Quirindi	u	86	64	0
Singleton	g	76	69	0
SYDNEY ..	r	77	68	0·16
Tamw'rth	-	—	—	-
Taralga ..	b	76	47	0
Taree ..	g	83	68	0·03
T'nt'rfield	u	74	65	0
Wagga ..	b	91	65	0
Walcha ..	u	77	55	0
Walgett ..	c	95	71	0
Warrah ..	b	85	57	0
W'ntw'rth	b	96	69	0
W'll'ng'ng	r	80	63	0·04
Young ..	g	93	61	0

SYDNEY OBSERVATORY.
LATITUDE 33° 51' 41" S LONGITUDE 10h. 4m. 50·1s. E

Average Annual Rainfall for 28 years...... .. 49·489
Average for 29 years from January 1 to 31, 1887 ... 3·619
Total Rainfall from January 1 to Feb. 25, 1887 .. 10·80[illegible]
Barometers corrected to 32° Fah. and Mean Sea Level



H. C. RUSSELL
GOVERNMENT ASTRONOMER

NOTES EXPLANATORY OF MAP.

In the list of stations the column headed W.T. gives the state of the weather at 9 a.m., b standing for blue sky; c, detached clouds; d, drizzling rain; f, fog; g, gloomy; h, hazy; m, misty; n, frosty; o, overcast; p, passing showers; r, rain; s, snow; t, thunder; u, threatening. The next column, M'x gives the maximum temperature for previous 24 hours. M'n the corresponding minimum temperature; r'n, the rain for the previous 24 hours. The symbols used in the map are explained on the margin. At each coast station the wind symbol is placed like a vane pointing to the direction from which the wind is coming. A clear circle with it means fine weather; a circle with bar, cloudy weather; and a black spot, raining. Next to this symbol are placed figures denoting the number of miles the wind is moving per hour; next, a symbol showing the state of the sea; and, lastly, figures denoting the shade temperature at 9 a.m. The barometer curve shows the state of barometers round the coast from Perth to Cooktown:- Pt. Perth; Ay, Albany; Ea, Eucla; CB, Cape Borda; A, Adelaide; Be, Bobe; P, Portland; M, Melbourne; W.P. Wilson's Promontory; Go, Gabo; E, Eden; Ma, Moruya; C, Clarence Bay; Wg, Wollongong; S, Sydney; N, Newcastle; PM, Port Macquarie; C, Clarence River; B, Brisbane; R, Rockhampton; Ct, Cooktown. Inland the state of barometer is given in figures at Albury, Deniliquin, Wentworth, Menindie, Bourke, and Alice Springs. The barometer curve enables one at a glance to trace the depressions, beginning with Western Australia, and passing along eastwards; northerly winds preceding them, and southerly following.

Western Australia.—Fine in N.W., overcast and raining in south parts, with light south to east winds; falling barometers and smooth sea. Rainfall, 0·11 inch at Albany. Extremes of barometers and temperature: Esperance Bay, 30·05 and 61°; Cossack, 29·78; and Ashburton, 87°.

South Australia.—Generally fine and pleasant, with scattered clouds on parts of the coast; light S. to E. winds and calms, fallen barometers, and moderate sea. Rainfall: 0·11 inch at Port Augusta. Extremes of barometers and temperature: Eucla: 30·13; Port Darwin, 29·71 and 86; M'Donnell Bay, 62°.

Victoria.—Fine but cloudy inland, overcast and threatening on the coast, with passing showers of misty rain falling in places, light to fresh easterly winds, fallen barometers, and moderate sea. Extremes of barometers and temperature: Omeo, 30·14, and rainfall 0.70 inch; Hamilton, 30·05; Echuca and Horsham, 73°; Wilson's Promontory, 63°.

Tasmania.—Generally fine, with light easterly winds and calms, steady barometers, and moderate to rough sea. Cloudy in N.E. parts. Extremes of barometers and temperature: Low Heads, 30·26; Circular Heads, 30·21 and 64°; Southport, 60°.

New Zealand.—Generally fine; N.W. to S.W. winds on North Island; N.E. wind in extreme south. Barometers: In extreme north, 30·3; to southward, 30·1.

New South Wales.—Fine in west parts; overcast and gloomy in the eastern division, with passing showers of misty rain along the coast; light N.E. to S.E. winds, almost steady barometers, and smooth to moderate sea, but heavy off Camden Haven; light and partial rain has fallen near the coast and range. Extremes of barometers and temperature at 9 a.m.: 30·29 at Sydney; Clarence, 30·07; Bourke and Hay, 81°; Cooma, 58°. Extra station: Lake Cudgellico, max. 79°, min. 75°, fine, clear, and warm. For further particulars see map.

Queensland.—Generally cloudy and unsettled, with showers in south coast districts, risen barometers, and moderate sea. Rainfall: Brisbane, 0·87; Rockhampton, 0·33; Townsville, 0·12; and Cooktown, 0·05 inch. Winds generally are light from S.E., with calms in places.

3 P.M. OBSERVATIONS.

Victoria.—Portland, S.E., 28, fine, smooth sea, temperature [illegible]; Cape Otway, S.E., 18, foggy, smooth sea, temperature [illegible]; Melbourne, S.W., 8, cloudy and gloomy, temperature 69°; Cape Schanck, S., 8, fine, but cloudy, smooth sea, temperature 70°; Wilson's Promontory, E., 40, cloudy and squally, moderate sea, temperature 65°; Lakes Entrance, S.E., 23, cloudy, temperature 71°. Brisbane, S.E., 6, misty rain, thermometer 77, barometer 30·03.

New South Wales.—Menindie, calm, fine, temperature 88°; Wentworth, N.W., 14, fine and hot, temperature 90°; Deniliquin S., 14, fine, temperature 85°; Moruya, N.E., 28, overcast, smooth sea, temperature 75°; Cape St. George, E., 14, dull, smooth sea, temperature 75°; Sydney, E., 8, fine and sultry, smooth sea, temperature 74; Newcastle, N.E., 14, fine, smooth sea, temperature 77°; Port Macquarie, S., 42, fine, but cloudy, smooth sea, temperature 82°; Dubbo, N.E., 14, fine, but cloudy, temperature 80°; Goulburn, N.E., 14, fine, temperature 73°.

HEIGHT OF RIVERS ABOVE SUMMER LEVEL.

Macintyre: At Mungindi, 2 feet. Barwon: At Mogil Mogil, 20 feet; at Walgett, 34 feet 2 inches. Namoi: At Walgett, 26 feet. Culgoa: At G[illegible] feet [illegible] inches. Darling: At Brewarrina, 21 feet 9 inches; at Bourke, 7 feet 8 inches; at Louth, 22 feet 4 inches; at Wilcannia, 24 feet 8 inches; at Wilcannia, 23 feet; at Menindie, 2[illegible] feet [illegible] inches; at Pooncarrie, [illegible] feet; at Wentworth, 11 feet [illegible]. Murrumbidgee: At Gundagai, 3 feet; at Wagga, 4 feet; at [illegible], 3 feet; at Balranald, 11 feet 10 inches. Murray: At Albury, 1 foot; at Euston, 2 feet 9 inches.

ASTRONOMICAL MEMORANDA FOR FEBRUARY 26.

Sun rises at 5.46, sets at 6.39; Moon, 8.35 a.m., 8.25 p.m.; Mercury, 6.57 a.m., 7.19 p.m.; Venus, 7.20 a.m., 7.38 p.m.; Mars, 6.[illegible] a.m., 7.19 p.m.; Jupiter, 9.16 p.m., 10.26 a.m.; Saturn, 3.1[illegible] p.m., 1.44 a.m. Full moon, 8th; new moon, 23rd.

High water at Fort Denison, 10.17 a.m.; 10.33 p.m.

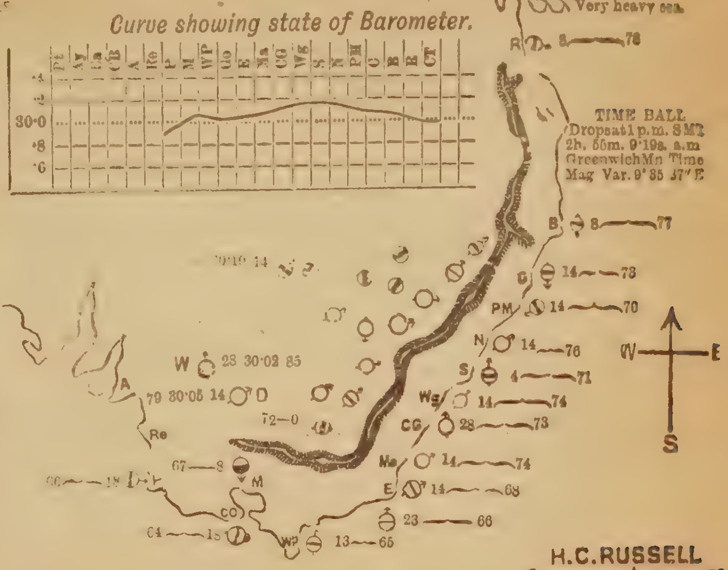
METEOROLOGICAL REPORTS AND MAP FOR FEBRUARY 26, 1887.

[illegible]	[illegible]	[illegible]		
[illegible]				
[illegible]	[illegible]			
[illegible]hu	[illegible]	[illegible]		0
[illegible]	[illegible]	77	64	0
[illegible]		—	—	-
[illegible]	[illegible]	91	72	0
Br'w'rrina	–		—	-
[illegible]	c	81	67	0
[illegible]	[illegible]	7[illegible]	72	0
C. St. Geo	b	77	66	0·03
[illegible]ar	b	8[illegible]	5[illegible]	0
Casino ..	b	80	69	0·03
Cassilis .	o			
Clarence	c			
[illegible]				
[illegible]ma ..		[illegible]	[illegible]	[illegible]
C[illegible]nab'n	[illegible]	[illegible]	[illegible]	0
Cowra ..	[illegible]	[illegible]	[illegible]	0
Deniliq'n	b	[illegible]	[illegible]	[illegible]
Dubbo ..	b	[illegible]	67	0
Eden	[illegible]	7[illegible]	65	0·10
Euston ..	b	105	68	0
Forbes ..	b	—	65	0
Gl'n Inn's	b	82	61	0
Goulburn	b	80	58	0
Grafton ..	b	84	72	0
Gulgong	b	80	57	0
Gunned'h	b	82	70	0
Hay	b	75	58	0
Inverell...	o	83	68	0
Kiandra	c	80	54	0·73
Lismore	r	7[illegible]	7[illegible]	0·0[illegible]
Maitland	b	82	64	0
M[illegible]	b	91	[illegible]1	0
Menindie	b	86	78	0
Molong ..	b	86	57	0
M'r'ng'r'll	b	87	68	0
Moree ..	u	89	72	0
M[illegible]	b	78	66	0·26
Moss Vale	u	70	62	0·1
Mt. Hope	b	97	69	
M. V[illegible]	u	75	[illegible]2	
Mudgee	b	89	57	0
M[illegible]rr'mb'h	b	91	71	0
M'rr'r'nd	b	81	68	0
Mus'lbr'k	b	86	62	0
Narrabri	g	89	69	0
Newcastle	b	79	71	[illegible]
Orange ...	b	80	[illegible]7	[illegible]
[illegible]lon .	r	7[illegible]		[illegible]
P. M'q'rie	g	[illegible]		[illegible]
P. St'ph'n	u	[illegible]		[illegible]
[illegible]	c	74	62	0·[illegible]
[illegible]irindi	g	86	62	0
Singleton	b	81	65	0
Sydney ..	c	75	67	0·10
Tamw'rth	–	—	—	–
Taralga ..	b	80	55	0
T[illegible] ..	–	—	—	–
T'nt'rfield	g	75	71	0
Wagga ..	b	9[illegible]	[illegible]	0
W[illegible] ..	b	[illegible]	[illegible]	0
Walgett ..	o	[illegible]7	70	0
Warrah ..	b	[illegible]	[illegible]	0
Wentworth	b	103	75	0
W'll'ng'ng	b	80	68	0·09
Young ...	b	94	62	0

SYDNEY OBSERVATORY
LATITUDE 33° 51' 41" S   LONGITUDE 10h. 4m. 50·81s. E.

[illegible] Annual rainfall for 2[illegible] years...... ... 49·489
Average for 29 years from January 1 to 31, 1887....8·619
Total Rainfall from January 1 to Feb. 26, 1887 ...10·709
Barometers corrected to 32° Fah. and Mean Sea Level

Fine, wind N. — Clouds in E. — T. storm, wind S. — Rain, wind W.
If it is CALM, the symbol is used without the arrow
Smooth sea.
Heavy sea.
Very heavy sea.



H. C. RUSSELL
GOVERNMENT ASTRONOMER

NOTES EXPLANATORY OF MAP.

In the list of stations the column headed W.T. gives the state of the weather at 9 a.m., b standing for blue sky; c, detached clouds; d, drizzling rain; f, fog; g, gloomy; h, hazy; m, misty; n, frosty; o, overcast; p, passing showers; r, rain; s, snow; t, thunder; u, threatening. The next column. M'x gives the maximum temperature for previous 24 hours. M'n the corresponding minimum temperature; r'n, the rain for the previous 24 hours. The symbols used in the map are explained on the margin. At each coast station the wind symbol is placed like a vane pointing to the direction from which the wind is coming. A clear circle with it means fine weather; a circle with bar, cloudy weather; and a black spot, raining. Next to this symbol are placed figures denoting the number of miles the wind is moving per hour; next, a symbol showing the state of the sea; and, lastly, figures denoting the shade temperature at 9 a.m. The barometer curve shows the state of barometers round the coast from Perth to Cooktown:—Pt, Perth; Ay, Albany; Ea, Eucla; CB, Cape Borda; A, Adelaide; Re, Robe; P, Portland; M, Melbourne; W P, Wilson's Promontory; Co, Gabo; E, Eden; Ma, Moruya; C G Jervis Bay; Wg, Wollongong; S, Sydney; N, Newcastle; P M, Port Macquarie; C, Clarence River; B, Brisbane; R, Rockhampton; Ct, Cooktown. Inland the state of barometer is given in figures at Albury, Deniliquin, Wentworth, Menindie, Bourke, and Alice Springs. The barometer curve enables one at a glance to trace the depressions, beginning with Western Australia, and passing along eastwards; northerly winds preceding them, and southerly following.

Victoria.—Generally cloudy and unsettled, with dense fog and mist on the coast, light variable winds, fallen barometers, and smooth sea. Thunder-storm and showers at Melbourne since 5 a.m. Rainfall: Omeo, 1·50; Melbourne, 0·44; Hamilton, 0·07; at Wilson's Promontory, 0·15. Extremes of barometers and temperature: Omeo, 30·09 and 61°; Hamilton, 29·87; and Horsham, 79°.

Tasmania.—Generally cloudy, with light north to east winds, [illegible] barometers, and moderate to rough sea. Rainfall: Falmouth, 0·30; and Circular Head, 0·02. Extremes of barometers and temperature: Falmouth, 30·13; Circular Head, 30·06; Low Head, 59°; and Southport, 65°.

New Zealand.—Fine in north, gloomy and showery on the S.E. coast. Barometers: In extreme north and south, 30·2; at Wellington, 30·1.

New South Wales.—Fine in west parts, cloudy and unsettled in the eastern division, with light easterly winds, falling barometer, and smooth to moderate sea. Raining at Lismore and Camden Haven, with rough sea at the latter place. Light rain has fallen at scattered places in the eastern division; heaviest at Kiandra. Extremes of barometers and temperature at 9 a.m.: Wentworth, 85°; Mount Victoria, 62°; Wollongong, 30·16; and Gabo, 29·99. Reading of the standard barometer at Sydney, corrected to 32° Fahr. and mean sea level, at 9 a.m., 30·114. For further particulars see map.

Queensland.—Cloudy in S.E. parts, with light S.E. to N.E. winds; showery at Roma. Rainfall: Rockhampton, 5·21; Brisbane, 0·10; and Roma, 0·03 inches. No reports from northern parts.

3 P.M. OBSERVATIONS.

Victoria.—Wilson's Promontory, N.E., 8, showery, dense fog, temperature 65°.

New South Wales.—Menindie, fine, hot, temperature 90°; Wentworth, N., fine, temperature 98°; Deniliquin, N.W., fine, close, temperature 94°; Eden, N.E., fine, light sea, temperature 72°; Moruya, N.E., 28, fine, moderate sea, temperature 80°; Cape St. George, N.E., 42, fine, smooth sea, temperature 74°; Newcastle, N.E., light, fine, smooth sea, temperature 75°; Port Macquarie, S., 42, fine, smooth sea, temperature 81°; Clarence River, S., showery, smooth sea, temperature 77°; Walgett, N.E., cloudy, temperature 84°; Dubbo, calm, fine, temperature 80°; Goulburn, calm, fine, temperature 76°.

HEIGHT OF RIVERS ABOVE SUMMER LEVEL.

Macintyre: At Mungindi, 22 feet. Barwon: At Mogil Mogil, 19 feet 6 inches; at Walgett, 33 feet 6 inches. Namoi: At Walgett, 25 feet 4 inches. Culgoa: At Goodooga, 6 feet 6 inches. Darling: At Brewarrina, 22 feet; at Bourke, 28 feet 3 inches; at Louth, 22 feet 10 inches; at Tilpa, 25 feet 8 inches; at Wilcannia, 23 feet 6 inches; at Menindie, 21 feet 5 inches; at Pooncarrie, 21 feet; at Wentworth, 11 feet. Murrumbidgee: At Gundagai, 3 feet; at Wagga, 3 feet 6 inches; at Hay, 2 feet 9 inches; at Balranald, 11 feet 6 inches. Murray: At Albury, 1 foot; at Euston, 4 feet 6 inches.

ASTRONOMICAL MEMORANDA FOR FEBRUARY 28.

Sun rises at 5.48, sets at 6.37; Moon, 10.22 a.m., 9.30 p.m.; Mercury, 7.6 a.m., 7.18 p.m.; Venus, 7.25 a.m., 7.37 p.m; Mars, 6.48 a.m., 7.16 p.m.; Jupiter, 9.8 p.m., 10.18 a.m.; Saturn, 3.39 p.m., 1.35 a.m. Full moon, 8th; new moon, 23rd.

High water at Fort Denison, 11.23 a.m.; 11.40 p.m.

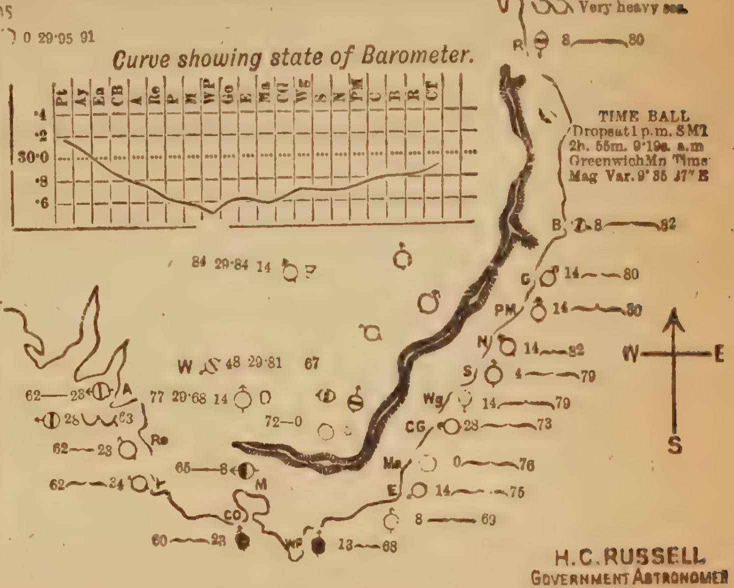
METEOROLOGICAL REPORTS AND MAP FOR FEBRUARY 28, 1887.

Stations.	W.T.	Mx	Mn	R'in
Albury	b	90	68	1·65
Armidale	b	80	62	0·14
Balranald	b	114	62	0
Bathurst	f	88	62	0·67
Bend'm'r	g	82	62	0·02
Bodalla	b	96	52	0·02
Bourke	b	105	75	0
Br'w'rrina	–	–	–	0
Bundarra	c	80	62	0·31
C'md'n H	b	84	72	–
C. St. Geo	b	80	64	0
Carcoar	b	79	51	0·88
Casino	b	88	69	–
Cassilis	b	82	70	0
Clarence	b	88	74	0
C'nd'b'lin	b	90	56	0·02
Cooma	b	84	49	0·28
Coonab'n	c	93	66	0
Cowra	b	99	69	1·01
Deniliq'n	g	103	61	0
Dubbo	b	92	65	0
Eden	b	77	64	0·74
Euston	–	–	–	0
Forbes	b	–	67	0·80
Gl'n Inn's	b	90	64	0·25
Goulburn	b	81	56	0·58
Grafton	b	92	73	0
Gulgong	b	85	60	0
Gunned'h	b	91	70	0
Hay	b	95	73	0·76
Inverell	b	86	70	0
Kiandra	b	83	40	0·73
Lismore	b	86	70	0·19
Maitland	b	89	69	0
Marsdens	b	93	72	0·46
Menindie	b	95	76	0
Molong	b	88	61	0·42
M'r'ng'r'll	b	82	68	1·77
Moree	b	90	70	0
Moruya	b	90	63	0·08
Moss Vale	b	78	62	0·12
Mt. Hope	b	102	70	0
M. Vict'ria	b	81	53	0·21
Mudgee	b	93	59	0
Murr'mb'h	–	–	–	–
M'rr'r'ndi	b	83	68	0
Mus'lbr'k	b	94	67	0
Narrabri	b	94	75	0
Newcastle	b	83	71	0
Orange	b	75	57	0·60
Picton	b	81	61	0·04
P. M'q'rie	b	84	70	0
P. St'ph'n	b	83	64	0
Queanbeyan	f	80	61	0·30
Quirindi	b	93	67	0
Singleton	b	83	71	0
Sydney	b	81	69	0
Tamw'rth	–	–	–	–
Taralga	b	88	58	0·40
Taree	b	88	71	0·07
T'nt'rfield	b	90	5[illegible]	0·26
Wagga	b	90	66	2·20
Walcha	b	84	55	0·03
Walgett	b	98	72	0
Warrah	b	92	63	0
W'ntw'rth	u	102	67	0
W'll'ng'ng	b	86	70	0
Young	b	72	60	0·88

SYDNEY OBSERVATORY.
LATITUDE 33° 51' 41" S LONGITUDE 10h. 4m. 50·81s. E

Average Annual Rainfall for 28 years...... ..... .49·489
Average for 29 years from January 1 to 31, 1887....3·619
Total Rainfall from January 1 to Feb. 28, 1887 ...10·709
Barometers corrected to 32° Fah. and Mean Sea Level

Fine, wind N. Cloudy, wind E. T. storm, wind S. Rain, wind W.
If it is CALM, the symbol is used without the arrow.
Smooth sea.
Heavy sea.
Very heavy sea.



NOTES EXPLANATORY OF MAP.

In the list of stations the column headed W.T. gives the state of the weather at 9 a.m., b standing for blue sky; c, detached clouds; d, drizzling rain; f, fog; g, gloomy; h, hazy; m, misty; n, frosty; o, overcast; p, passing showers; r, rain; s, snow; t, thunder; u, threatening. The next column. M'x gives the maximum temperature for previous 24 hours. M'n the corresponding minimum temperature; r'n, the rain for the previous 24 hours. The symbols used in the map are explained on the margin. At each coast station the wind symbol is placed like a vane pointing to the direction from which the wind is coming. A clear circle with it means fine weather; a circle with bar, cloudy weather; and a black spot, raining. Next to this symbol are placed figures denoting the number of miles the wind is moving per hour; next, a symbol showing the state of the sea; and, lastly, figures denoting the shade temperature at 9 a.m. The barometer curve shows the state of barometers round the coast from Perth to Cooktown:—Pt, Perth; Ay, Albany; Fa, Eucla; CB, Cape Borda; A, Adelaide; Re, Robe; P, Portland; M, Melbourne; WP, Wilson's Promontory; Go, Gabo; E, Eden; Ma, Moruya; CG Jervis Bay; Wg, Wollongong; S, Sydney; N, Newcastle; PM, Port Macquarie; C, Clarence River; B, Brisbane; R, Rockhampton; Ct, Cooktown. Inland the state of barometer is given in figures at Albury, Deniliquin, Wentworth, Menindie, Bourke, and Alice Springs. The barometer curve enables one at a glance to trace the depressions, beginning with Western Australia, and passing along eastwards; northerly winds preceding them, and southerly following.

Western Australia.—Generally fine, with light scattered clouds in places, light southerly winds, fallen barometers, and smooth to moderate sea. Extremes of barometers and temperature: Perth, 30·15 and 59°; Cossack, 29·73; Ashburton, 96°.

South Australia.—Generally fine, cool, and partially cloudy, with fresh E. to S. and S.W. winds, fallen barometers, and moderate to rough sea. Rainfall: Yam Creek, 5·20; Daly Waters, 0·04; and Robe, 0·01 inches. Extremes of barometers and temperature: Eucla, 29·97; Cape Borda, 29·75; Alice Springs, 91°; and Macdonnell Bay, 57°.

Victoria.—Generally fine in west, showery with thunder in east parts, fresh northerly winds, fallen barometers, and smooth sea. Rainfall: Ballarat, 1·95; Omeo, 1·44; Melbourne, 1·35; and Lakes Entrance, 0·03 inches. Extremes of barometers and temperature: Cape Otway, 29·62 and 60°; Wilson's Promontory, 29·49; and Horsham, 75°.

Tasmania.—Heavy showers at Low Heads and Hobart, with fresh northerly winds, and rainfall 0·11 and 0·02 inches respectively. Barometers and temperature: Low Heads, 29·53 and 65°; Hobart, 29·47 and 65°.

New Zealand.—Generally fine, with light and variable winds and calms. Barometers: Russell, 30·1; Wellington, 29·9; and Bluff, 29·8.

New South Wales.—Generally fine and warm, cloudy along the Murray, with light to fresh westerly winds, fallen barometers, and smooth sea. Rain has fallen in south parts, heaviest west of the range. Extremes of barometers and temperature at 9 a.m.: Walgett, 29·86; Eden, 29·57; Bourke, 84°; and Cooma, 50. Reading of the standard barometer at Sydney, corrected to sea level, and 32° Fahr. at 9 a.m., 29·732. Extra Stations: Lake Cudgellico: Max. 94°, min. 71°, fine, clear, and warm. Hill End: Rainfall, 0·16 inch, and cloudy. Temora: Heavy storm from N.E., 1·35 inch rainfall, now fine and calm. For further particulars see map.

Queensland.—Generally cloudy and unsettled, with light E. to S. winds, fallen barometers, and smooth sea. Showery at Blackall. Rainfall: Rockhampton and Normanton, 0·20; Bourketown, 0·07; Brisbane, 0·04; and Cape Moreton, 0·02 inches.

3 P.M. OBSERVATIONS.

Brisbane.—E.N.E., 13, fine but cloudy, temperature 85°.

Victoria.—Cape Otway, N.W., 7, fine, moderate sea, temperature 68°; Melbourne, W., 4, fine, temperature 75°; Wilson's Promontory, W., 16, cloudy, moderate sea, temperature 66°; Lakes' Entrance, E., 4, showery, gloomy, temperature 71°.

New South Wales.—Eden, N.E., 6, fine, moderate sea, temperature 76°; Moruya, N.E., 15, threatening, smooth sea, temperature 78°; Cape St. George, N., 28, fine, smooth sea, temperature 77°; Sydney, N., 11, fine and very hot, smooth sea, temperature 86°; Newcastle, N.W., 14, fine, smooth sea, temperature 92°; Port Macquarie, N.E., 14, fine, smooth sea, temperature 85°; Walgett, N.W., fine, temperature 96. Dubbo, N.W., 14, fine, temperature 86°; Yamba, N.E., 14, fine, smooth sea, temperature 85°; Goulburn, N.W., 14, fine, temperature 66°.

HEIGHT OF RIVERS ABOVE SUMMER LEVEL.

Macintyre: At Mungindi, 24 feet. Barwon: At Mogil Mogil, 18 feet 8 inches; at Walgett, 32 feet 6 inches. Namoi: At Walgett, 23 feet 6 inches. Culgoa: At Goodooga, 6 feet 8 inches. Darling: At Brewarrina, 22 feet; at Bourke, 29 feet; at Louth, 23 feet; at Tilpa, 26 feet 5 inches; at Wilcannia, 24 feet 6 inches; at Menindie, 22 feet 10 inches; at Pooncarrie, 20 feet 10 inches; at Wentworth, 10 feet 11 inches. Murrumbidgee: At Gundagai, 3 feet; at Wagga, 5 feet 9 inches; at Hay, 6 feet; at Balranald, 8 feet 3 inches. Murray: At Albury, 1 foot 9 inches.

ASTRONOMICAL MEMORANDA FOR MARCH 1.

Sun rises at 5.49, sets at 6.35; Moon, 11.16 a.m., 10.4 p.m.; Mercury, 7.8 a.m., 7.18 p.m.; Venus, 7.26 a.m., 7.36 p.m; Mars, 6.48 a.m., 7.14 p.m.; Jupiter, 9.4 p.m., 10.14 a.m.; Saturn, 3.36 p.m., 1.30 a.m. Full moon, 10th; new moon, 25th.

High water at Fort Denison, 11.59 a.m.

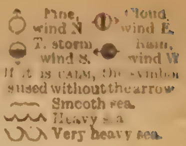
METEOROLOGICAL REPORTS AND MAP FOR MARCH 1, 1887.

Stations.	wt	Mx	mn	R'n
[illegible]	–	–	–	0 [illegible]
Armidale	c	86	63	1·4[illegible]
Bairnsdale	b	83	53	0·3[illegible]
Bathurst	b	[illegible]	[illegible]	[illegible]
Bend'n'r	c	[illegible]	[illegible]	[illegible]
Bourke ..	b	[illegible]	[illegible]	[illegible]
Bowral ..	c	[illegible]	[illegible]	[illegible]
Brewarrina				
Bundarra	u	[illegible]	66	[illegible]
C'nd'n'll	r	[illegible]	72	0·7[illegible]
C. St. Geo	b	[illegible]	[illegible]	[illegible]
Carcoar ..	b	[illegible]	[illegible]	[illegible]
Casino ..	b	96	71	–
Cassilis ..	c	86	70	0·54
Clarence	b	89	74	0
C'nd'b'lin	b	97	47	0·[illegible]
Cooma ..	b	67	48	–
Coonab'n	b	92	62	2·[illegible]
Cowra ..	b	91	66	0·0[illegible]
Deniliq'n	b	85	45	0·14
Dubbo ..	b	95	60	1·30
Eden	b	80	60	0·40
Euston ..	–	—	—	0
Forbes ..	b	—	61	0·17
Gl'n Inn's	–	–	–	[illegible]
Goul'burn	b	89	54	0·5[illegible]
Grafton ..	b	96	75	0
Gulgong	c	90	62	1·30
Gunned'h	b	82	62	1·50
Hay	r	87	56	0
Inverell ..	b	86	70	1.59
Kiandra	b	82	42	1·80
Lismore	g	91	71	0
Maitland	b	96	71	0·80
Marsdens	b	81	65	0·11
Menindie	b	84	64	0
Molong ..	b	90	58	0·77
M'r'ng'r'll	b	89	60	1·01
Moree ..	–	–	–	–
Moruya ..	b	83	62	0·17
Moss Vale	b	[illegible]	60	0·11
Mt. Hope	b	[illegible]	[illegible]	[illegible]
[illegible]	c	[illegible]	[illegible]	[illegible]
Mudgee ..	b	92	51	[illegible]
M'rr'nd'h	b	[illegible]	[illegible]	[illegible]
Murr'nd'i	u	86	62	2·[illegible]
Mus'lbr'k	g	94	[illegible]	0·6[illegible]
Narrabri	c	96	7[illegible]	0·61
Newcastle	b	94	[illegible]	0·41
Orange ..	b	82	53	0·6[illegible]
Paton ..	o	91	62	0·27
P. M'q'rie	r	84	66	0·22
P. St'ph'n	g	86	63	0·45
Queanbeyan	b	83	59	1·45
Quirindi	u	91	68	1·23
Singleton	b	82	71	0·06
SYDNEY ..	c	87	69	0·11
Tamw'rth	–	—	—	–
Taralga ..	b	83	52	0·20
Taree ..	g	96	72	0·20
T'nt'rfield	r	92	63	0·60
Wagga ..	b	94	52	0·07
Walcha ..	c	81	59	0·65
Walgett ..	u	99	66	1·23
Warrah ..	g	85	55	1·30
W'ntw'rth	b	85	58	0
W'll'ng'ng	b	86	69	0·10
Young ..	b	89	54	0.55

SYDNEY OBSERVATORY.

LATITUDE 33° 51' 41" S. LONGITUDE 10h. 4m. 50·81s. E.

Average Annual Rainfall for 28 years .... 49·480
Average for 28 years from Jan 1 to Feb. 28, 1887 .... 9·147
Total Rainfall from January 1 to March 1 1887 ... 10·816
Barometers corrected to 32° Fah. and Mean Sea Level



Curve showing state of Barometer.

H. C. RUSSELL
GOVERNMENT ASTRONOMER

NOTES EXPLANATORY OF MAP.

In the list of stations the column headed W.T. gives the state of the weather at 9 a.m., b standing for blue sky; c, detached clouds; d, drizzling rain; f, fog; g, gloomy; h, hazy; m, misty; n, frosty; o, overcast; p, passing showers; r, rain; s, snow; t, thunder; u, threatening. The next column, M'x gives the maximum temperature for previous 24 hours. M'n the corresponding minimum temperature; R'n, the rain for the previous 24 hours. The symbols used in the map are explained on the margin. At each coast station the wind symbol is placed like a vane pointing to the direction from which the wind is coming. A clear circle with it means fine weather; a circle with bar, cloudy weather; and a black spot, raining. Next to this symbol are placed figures denoting the number of miles the wind is moving per hour; next, a symbol showing the state of the sea; and, lastly, figures denoting the shade temperature at 9 a.m. The barometer curve shows the state of barometers round the coast from Perth to Cooktown:—Pt, Perth; Ay, Albany; Ea, Eucla; CB, Cape Borda; A, Adelaide; Re, Robe; P, Portland; M, Melbourne; WP, Wilson's Promontory; Go, Gabo; E, Eden; Ma, Moruya; CG, Jervis Bay; Wg, Wollongong; S, Sydney; N, Newcastle; PM, Port Macquarie; C, Clarence River; B, Brisbane; R, Rockhampton; Ct, Cooktown. Inland the state of barometer is given in figures at Albury, Deniliquin, Wentworth, Menindie, Bourke, and Alice Springs. The barometer curve enables one at a glance to trace the depressions, beginning with Western Australia, and passing along eastwards; northerly winds preceding them, and southerly following.

Western Australia.—Fine along the west coast, cloudy and gloomy in south, with light southerly winds, risen barometers, and smooth sea. Extremes of barometers and temperature: Esperance Bay, 30·18 and 60°; Cossack, 29·80 and 87°.

South Australia.—Generally cloudy south of Burra, with light rain in places, scattered clouds inland, light S.W. to W. winds, risen barometers, and moderate to rough sea. Rainfall: Yam Creek, 5·05; Port Darwin, 0·14; and Robe, 0·02 inches. Extremes of barometers and temperature: Eucla, 30·14; Port Darwin, 29·78; Adelaide, 80°; and Cape Borda, 59°.

Victoria.—Generally more or less cloudy, with fresh to strong westerly winds, risen barometers, and rough sea. Rainfall: Portland, 0·23; Wilson's Promontory, 0·19; Melbourne, 0·03; and Cape Otway, 0·02 inches. Extremes of barometers and temperature: Echuca, 29·95; Wilson's Promontory, 29·61; Horsham, 72°; and Ballarat, 59°.

Tasmania.—Generally fine, with fresh westerly winds, fallen barometers, and smooth to moderate sea. Rainfall: Low Heads, 0·02; Hobart, 0·70; Southport, 0·40; and Circular Heads, 0·50 inches. Extremes of barometers and temperature: Circular Head, 29·61 and 60°; Hobart, 29·45 and 61°.

New Zealand.—Fine in north and south parts, showery at Wellington, with N. E. winds and smooth sea. Barometers: Russell, 29·8[illegible], Wellington and Bluff, 29·9.

New South Wales.—Generally fine and warm, with light variable winds and calms, rising barometers and smooth sea. Cloudy and threatening weather in N.E. parts, with rain falling in places. Rain has fallen generally heaviest in the Darling watershed on and near the range. Heavy thunderstorms occurred during the night at Sydney, Murrurundi, Walcha, and Walgett. Extremes of barometers and temperature at 9 a.m.: Menindie, 30·04; Eden, 29·69; Cape St. George, 82°; and Cooma, 50°. Extra stations: Temora, heavy storm from N.W., 0·50 inch rain fell, weather now fine; Lake Cadgellico: Max. 78°, min. 58°, Tintinallogy: rain, fine and clear; Hill End, 0.90 inch rain; and Gabo Island, 0·18 inch. For further particulars see map.

Queensland.—Generally cloudy and unsettled, with light variable winds and calms, steady barometers, and smooth sea. Rainfall: Blackall, 0·09; Normanton, 0·02; and Brisbane, 0·01 inch.

3 P.M. OBSERVATIONS.

Brisbane.—Thunderstorm, with heavy rain, temperature 79°.

Victoria.—Portland, W., 28, fine but cloudy, smooth sea, temperature 68°; Cape Otway, W.N.W., 23, cloudy, sea rising, temperature 67°; Melbourne, W., 13, cloudy, temperature 71°; Cape Schanck, S.W., 18, fine but cloudy, rough sea, temperature 66°; Wilson's Promontory, W., 28, cloudy and squally, rough sea, temperature 65°, Lakes' Entrance, W., 23, fine but cloudy, temperature 74°.

New South Wales.—Menindie, S., 14, fine, temperature 76; Wentworth, S., 28, fine and cool, temperature 68°; Deniliquin, fine but cloudy, temperature 76°; Eden, E., 14, fine, smooth sea, temperature 69°; Moruya, E.N.E., 28, fine, smooth sea, temperature 79°; Cape St. George, E., 28, fine, smooth sea, temperature 76°; Sydney, E., 12, fine, hazy, and warm, smooth sea, temperature 76°; Newcastle, S.S.E., 14, fine, smooth sea, temperature 74°; Port Macquarie, N.E., 14, fine but cloudy, smooth sea, temperature 78°; Clarence River, N., 14, showery, smooth sea, temperature 73°; Dubbo, S., 14, fine, temperature 77°; Goulburn, W., 14, fine, temperature 72°.

HEIGHT OF RIVERS ABOVE SUMMER LEVEL.

Macintyre: At Mungindi, 24 feet 10 inches. Barwon: At Mogil Mogil, 18 feet; at Walgett, 32 feet 4 inches. Namoi: At Walgett, 23 feet. Culgoa: At Goodooga, 5 feet 10 inches. Darling: At Brewarrina, 22 feet 3 inches; at Bourke, 29 feet 6 inches; at Louth, 24 feet 2 inches; at Tilpa, 27 feet; at Wilcannia, 25 feet; at Menindie, 22 feet 11 inches; at Pooncarrie, 20 feet 9 inches; at Wentworth, 10 feet 9 inches. Murrumbidgee: At Gundagai, 7 feet 10 inches; at Wagga, 8 feet 3 inches; at Hay, 6 feet 0 inches; at Balranald, 9 feet 6 inches.

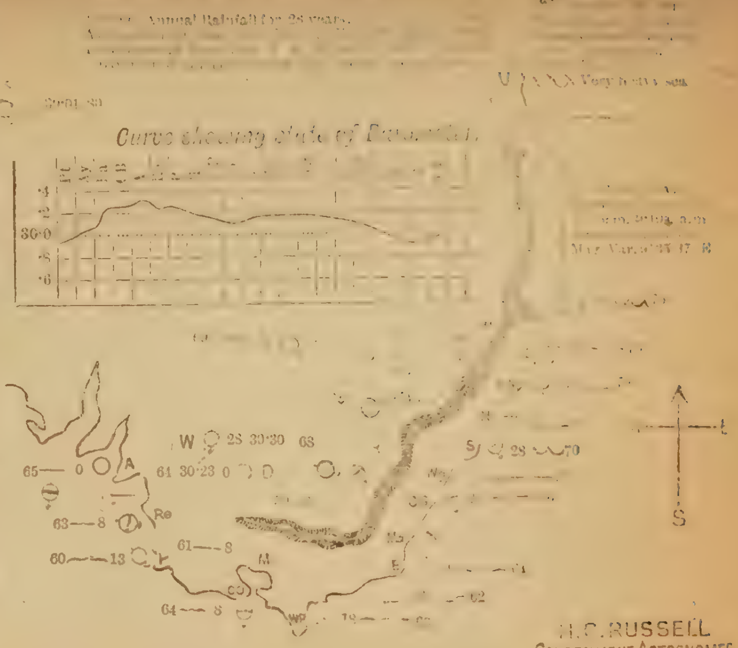
ASTRONOMICAL MEMORANDA FOR MARCH 2.

Sun rises at 5.50, sets at 6.34; Moon, 12.12 p.m., 10.44 p.m.; Mercury, 7.10 a.m., 7.17 p.m.; Venus, 7.28 a.m., 7.35 p.m; Mars, 6.48 a.m., 7.12 p.m.; Jupiter, 9.0 p.m., 10.10 a.m.; Saturn, 3.32 p.m., 1.26 a.m. Full moon, 10th; new moon, 25th.

High water at Fort Denison, 12.17 a.m., 12.39 p.m.

Bourke ..	b	[illegible]		
Br'w'rrina	-	—	—	
Bundarra	b	80	62	0
[illegible]	c	80	67	0
C. St. Geo	c	84	64	0
Carcoar ..	b	74	41	0
Casino ..	b	86	63	0·05
Cassilis ..	o	77	63	0
Clarence	o	84	71	0·45
C'nd'b'lin	b	93	42	0
Cooma ..	c	79	45	0
Coonab'n	b	89	56	0
Cowra ..	b			
Deniliq'n	b	[illegible]	52	0
Dubbo ..	b			
Eden	b			0
Euston ..	b			
Forbes ..	b		52	
G'n Inn's	b	85	56	0·15
Goulburn	g	81	50	0
Grafton				0
Gulgong	c	82	55	0
Gunned'h	b	92	62	0
Hay	b	[illegible]	53	0
Inverell..	b			0
Kiandra	c	68	38	0
Lismore	r	91	71	0·80
Maitland	b	86	65	0
Marsdens	b	81	61	0
Menindie	b	80	60	0
Molong ..	b	86	56	0
M'r'ng'r'll	b	75	57	0
Moree ..	b	97	68	0
Moruya ..	g	76	62	0
Moss Vale	u	73	56	0·95
Mt. Hope	b			0
M. Vict'ria	c	75	52	0
Mudgee ..	u	87	52	0
M'rr'mb'h	b	81	54	0
M'rr'r'ndi	g	88	64	0
Mus'lbr'k	c			0
Narrabri	b			0
Newcastle	g			0
Orange ..				0
[illegible]				
P. M'q'rie	b	79		0
P. St'ph'n	c			0
[illegible]	g			0
[illegible]	b			0
Singleton	c			0
SYDNEY ..	c	77	66	0·02
Tamw'rth	—	—	—	—
Taralga ..	u	81	57	0
Taree ..	g	75	64	0
T'nt'rfield	u	81	62	0
Wagga ..	b	84	47	0
Walcha ..	b	76	45	0·02
Walgett ..	b			0
Warrah ..	b	72	56	0
W'ntw'rth	b	81	55	0
W'll'ng'ng	c	80	67	0
Young ..	b	90	49	0

Annual Rainfall for 28 years.



H. C. RUSSELL
GOVERNMENT ASTRONOMER

NOTES EXPLANATORY OF MAP.

In the list of stations [illegible] standing for [illegible] m. misty [illegible] figures denoting the shade temperature at 9 a.m. The barometer curve shows the [illegible] Perth; Ay. Albany; Ea. Eucla; CB. Cape Borda; A. Adelaide; Re. Robe; P. Portland; M. Melbourne; WP. Wilson's Promontory; Go. Gabo; E. Eden; Ma. Moruya; CG. Jervis Bay [illegible] River; B. Brisbane; R. Rockhampton; Ct. Cooktown. Inland the state of barometer is given in figures at Albury, Deniliquin, Wentworth, Menindie, Bourke and Alice Springs. [illegible] ceding them, and southerly [illegible]

West Australia.—Fine along the east coast, more or less cloudy in south parts, with light easterly winds, fallen barometers, and moderate sea. Rainfall: 0·41 inch at Perth. Extremes of barometers and temperature: Geraldton, 29·97; Cossack, 29·87; Ashburton, 88°; and Esperance Bay, 64°.

South Australia.—Generally fine, with scattered clouds south of Burra, clear to Port Darwin, light E. to S.E. winds, risen barometers, and moderate sea. Rainfall: Yam Creek, 0·87; Port Darwin, 0·57; and Robe, 0·01 inch. Extremes of barometers and temperature: Cape Borda, 30·30; Port Darwin, 29·82 and 82°; Robe, 63°.

Victoria.—Generally more or less cloudy, with light southerly winds, risen barometers, and moderate sea. Rainfall: Capes Otway, 0·03; Portland and Hamilton, 0·02 inch. Extremes of barometers and temperature: Melbourne, 30·26; Wilson's Promontory, 30·17; Horsham, 71°; and Hamilton, 55°.

Tasmania.—Generally fine, with light westerly winds, risen barometers, and moderate sea. Rainfall: Southport, 0·30; and Hobart, 0·02 inch. Extremes of barometers and temperature: Circular Head, 30·20 and 59°; Hobart, 30·13; and Low Head, 56°.

New Zealand.—Showery from N.W. in extreme north, barometer at 30·1. Fine, with north winds and calms to southward; barometers at 29·8.

New South Wales.—Generally fine and cool, with clouds at places in the eastern division of the colony; fresh S. to E. winds, risen barometers, and the sea smooth to moderate, but rough off Sydney Heads. Rain has fallen in scattered places; heaviest at Moss Vale, where 0·95 inch fell in half an hour yesterday. Extremes of barometers and temperature: Wentworth, 30·30; Port Macquarie, 30·06 and 75°; Mount Victoria, Cooma, and Kiandra, 55°. Reading of the standard barometer at Sydney corrected to 32° Fahr. and mean sea level, at 9 a.m., 30·146. Extra stations: Lake Cudgellico, max. 81°, min. 51°, fine and clear. For further particulars see map.

Queensland.—Cloudy and unsettled along the coast, fine and warm west of the range, with light S. to E. winds, risen barometers, and moderate to rough sea. Rainfall: Brisbane, 1·50; Cooktown, 1·42; Cape Moreton, 0·46; Rockhampton, [illegible]; Mackay, 1·06; and Townsville 1·14 inches.

3 P.M. OBSERVATIONS.

Victoria.—Portland, S., 18, fine, smooth sea, temperature 65°; Cape Otway, S.S.W., 18, fine, moderate sea, temperature 67°; Melbourne, S.S.W., 18, fine, temperature 66°; Cape Schanck, S., 13, fine but cloudy, smooth sea, temperature 66°; Wilson's Promontory, S.W., 13, cloudy, smooth sea, temperature 65°.

Queensland.—Brisbane, S.E., 18, cloudy and threatening, temperature 80°.

New South Wales.—Wentworth, S.S.W., 14, fine, temperature 70°; Deniliquin, S., 14, fine and clear, temperature 77°; Eden, S.E., 14, fine, smooth sea, temperature 67°; Moruya, S.E., 28, fine, but cloudy, smooth sea, temperature 68°; Cape St. George, S.E., 28, fine, temperature 69°; Sydney, S.S.E., 21, cloudy, dull, and squally, moderate sea, temperature 71°; Newcastle, S.S.E., 14, cloudy, moderate sea, temperature 73°; Port Macquarie, S., 14, fine, smooth sea, temperature 84°; Clarence River, S., 14, fine, smooth sea, temperature 79°; Dubbo, E., 14, fine, temperature 79°; Goulburn, E.N.E., 14, [illegible]

HEIGHT OF RIVERS ABOVE SUMMER LEVEL.

Macintyre: At Mungindi, 24 feet. Barwon: At Mogil Mogil, 20 feet; at Walgett, 32 feet 4 inches. Namoi: At Walgett, 22 feet 10 inches. Culgoa: At Goodooga, 5 feet 6 inches. Darling: At Brewarrina, 22 feet 3 inches; at Bourke, 30 feet 1 inch; at Louth, 25 feet 1 inch; at Tilpa, 23 feet; at Wilcannia, 26 feet; at Menindie, 23 feet 2 inches; at Pooncarie, 20 feet 8 inches; at Wentworth, 10 feet 7 inches. Murrumbidgee: At Gundagai, 12 feet 6 inches; at Wagga, 15 feet; at Hay, 5 feet 6 inches; at Balranald, [illegible] feet. Murray: At Albury, 3 feet 8 inches; at Euston, 4 feet 2 inches.

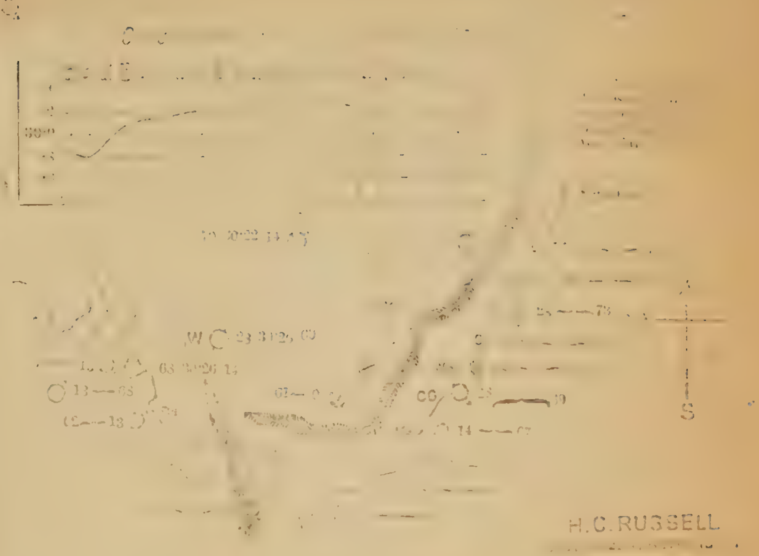
ASTRONOMICAL MEMORANDA FOR MARCH 4.

Sun rises at 5.52, sets at 6.32; Moon, 2.5 p.m.; Mercury, 7.14 a.m., 7.14 p.m.; Venus, 7.32 a.m., 7.33 p.m.; Mars, 6.48 a.m., 7.8 p.m.; Jupiter, 8.52 p.m., 10.2 a.m.; Saturn, 8.24 p.m., 1.18 a.m. Full moon 10th; new moon 25th.

High water at Fort Denison, March [illegible]

H. A. LENEHAN, Acting Government Astronomer.

Cassilis ..	[illegible]	[illegible]	[illegible]	[illegible]
Chud'l'm	[illegible]	[illegible]	[illegible]	[illegible]
Coonab'n.	b	85	57	[illegible]
Cowra ..	b	80	63	[illegible]
Deniliq'n.	[illegible]	[illegible]	[illegible]	[illegible]
Forbes	[illegible]	[illegible]	[illegible]	[illegible]
Glen Innes	[illegible]	[illegible]	[illegible]	[illegible]
Goulburn	[illegible]	[illegible]	[illegible]	[illegible]
Grafton	[illegible]	[illegible]	[illegible]	[illegible]
Kiandra..	[illegible]	70	38	0
Lismore	[illegible]	80	67	0·33
[illegible]	[illegible]	77	66	0·02
[illegible]	[illegible]	83	65	0
[illegible]	[illegible]	81	60	0
Mt. Hope	[illegible]	[illegible]	[illegible]	[illegible]
M. Vic.	[illegible]	[illegible]	[illegible]	[illegible]



Mudgee ..	g		55	0
M'rr'mb'h	b	70	64	0
M'rr'r'udi	b	73	59	0
Mus'lbr'k	b	80	61	0
Narrabri	b	[illegible]	[illegible]	0
Newcastle	b	76	[illegible]	0·01
Orange ..	c	74	47	0
Picton ..	d	69	58	0·01
P. M'q'rie	b	[illegible]	64	0
P. St'ph'n	r	78	59	0·85
Q'nbeyan	b	69	54	–
Quirindi	b	84	59	0
Singleton	b	77	67	0
SYDNEY ..	c	73	64	0·28
Tamw'rth	–	—	—	0
Taralga ..	u	79	45	0
Taree ..	b	[illegible]	[illegible]	0·16
Tent'rfield	c	75	[illegible]	0
Wagga ..	b	86	55	0
Walcha ..	c	74	62	0·02
Walgett..	b	91	65	0
Warrah ..	b	73	58	0
Wentw'rth	b	84	[illegible]	0
Wollong'ng	r	73	63	0·05
Young ..	b	87	54	0

NOTES EXPLANATORY OF MAP.

In the list of stations the column headed W.T. gives the state of the weather at 9 a.m., b standing for blue sky; c, detached clouds; d, drizzling rain; f, fog; g, gloomy; h, hazy; [illegible] hours. M'n the corresponding minimum temperature; r'n. the rain for the previous 24 hours. The symbols used in the map are [illegible] the wind symbol is placed like a vane po[illegible]g to the direction from which the wind is coming. A clear circle with it means fine weather; a circle with bar, cloudy weather; and a black spot, raining. Next to this symbol are placed figures denoting [illegible] of the sea; and, lastly, figures denoting the shade temperature at 9 a.m. The barometer [illegible] is given in figures at Albury, Deniliquin, Wentworth, Menindie, Bourke, and Alice Springs. The barometer curve enables one at a glance to trace the depressions, beginning with Western Australia, and passing along eastwards; northerly winds preceding them and [illegible] following.

Western Australia.—Fine and calm in N.W., cloudy and gloomy in south parts, with light N. [illegible] winds, [illegible] barometers, and smooth sea. Extremes of barometers and temperature: Eucla, 29·92; Albany, 29·72; Perth, 69°; and Ashburton, 89°.

South Australia.—Generally fine, with scattered clouds west of Cape Borda, and between Burra and Peake, light N.E. to S.E. [illegible] moderate sea. Rainfall: Port Darwin, 1·37 inch. Extremes of barometers and temperature: M'Donnell Bay, 30·18 and 60°; Port Darwin, 29·78 and 84°.

Victoria.—Generally fine, with light N.E. to S.E. winds, [illegible] and smooth sea. Extremes of barometers and temperature: Cape Otway, 30·[illegible]; Ballarat, [illegible]; Horsham, 70°; and Hamilton, 59°.

Tasmania.—Generally fine, with light variable winds and calms, risen barometers, and smooth sea. Extremes of barometers and temperature: Low Heads, 30·25; Hobart, 30·20 and 62°; Circular Head, 59°.

New Zealand.—Passing showers in extreme north, with light south winds; fine, with S.E. wind, and 0·35 inch rain fallen at Wellington; fine but squally from S.W. at Bluff. Barometers: In extreme north and south parts, 30·0; over centre 29·9.

New South Wales.—Generally fine, with clouds and unsettled weather, and light rain falling in places on the coast; light N.E. and S.E. winds, risen barometers, and smooth to moderate sea. Light rain has fallen at a few places near the coast. Extremes of barometers and temperature at 9 a.m.: Moruya, 30·30; Gabo, 30·17; Inverell, 80°; and Cooma, 53°. Reading of the standard barometer at Sydney corrected to 32° Fahr. and mean sea level, at 9 a.m., 30·262. **For further particulars see map.**

Queensland.—Generally cloudy and unsettled, with fresh to strong N.E. and S.E. winds, risen barometers, and moderate to rough sea. Strong S.E. gale during the night at Burketown. Rainfall: Cooktown 1·50, Townsville 1·30, Rockhampton 0·96, Mackay 0·31, Normanton 0·10, Cape Moreton 0·07, and Brisbane 0·01 inch.

3 P.M. OBSERVATIONS.

Queensland.—[illegible]

Victoria.—Portland, W., [illegible] smooth sea, temperature 68°; Cape Otway, E. [illegible] fine, but cloudy, moderate sea, temperature 67°; Melbourne, S.S.W., 12, fine and clear, temperature 70°; Cape Schanck, E.S.E., 13, fine and clear, moderate sea, temperature 66°; [illegible] clear, temperature 72°.

New South Wales.—Wentworth, S., 14, fine and warm, temperature 74°; Deniliquin, [illegible] fine, smooth sea, temperature 72°; Cape St. George, [illegible] but cloudy, smooth sea, temperature 73°; Sydney, [illegible] and fresh breeze, smooth sea, temperature 72°; Newcastle, S.E., 14, fine, smooth sea, temperature 75°; Port Macquarie, E.N.E., 28, fine, moderate sea, temperature 82°; Dubbo, N., 11, fine, temperature 78°; Goulburn, E., 11, [illegible]

HEIGHT OF [illegible]

Macintyre: At Mun[illegible] Mogil, 21 feet; at Wa[illegible] 22 feet 6 inches. [illegible] ling: At Brewarr[illegible] 4 inches; at [illegible] at Wilcannia, [illegible] Pooncarie, [illegible] feet [illegible] Murrumbidgee: At [illegible] at W[illegible] 12 feet; at Hay, 5 feet. At Albury, 1 feet; [illegible]

ASTRONOMICAL [illegible]

Sun rises at 5.55, sets at [illegible] m., 12.17 a.m.; Mercury, 7.16 a.m., 7.12 p.m.; Venus, [illegible] 7.32 p.m.; Mars, 6.47 a.m., [illegible] a.m.; Saturn, 3.20 p.m., [illegible] 25th.

High water at [illegible]

METEOROLOGICAL REPORTS AND MAP FOR MARCH 5, 1887.

Stations.	W.	M'x.	M'n.	r'n.
[illegible]	b	84	[illegible]	0
[illegible]	[illegible]	[illegible]	[illegible]	0
Balranald	b	104	[illegible]	[illegible]
[illegible]	b	[illegible]	[illegible]	0
[illegible]	b	7[illegible]	53	0
[illegible]	b	79	5[illegible]	0
Bourke	b	100	67	[illegible]
[illegible]	b	82	61	0
[illegible]	b	81	6[illegible]	[illegible]
[illegible]	b	[illegible]	63	[illegible]
[illegible]	b	77	4[illegible]	0
Casino	b	81	66	0·51
[illegible]	[illegible]	75	65	0
Clarence H.	b	81	71	[illegible]
[illegible]	b	88	51	0
Cooma	g	[illegible]	49	0
[illegible]	b	8[illegible]	54	0
Cowra	b	[illegible]	65	0
[illegible]	b	[illegible]	[illegible]	0
[illegible]	c	[illegible]	63	0
Dubbo	b	[illegible]	[illegible]	0
Eden	b	73	60	0
Euston	b	99	67	0
Forbes	b	—	53	0
Glen Inn's	u	—	60	0
Goulburn	b	78	53	0

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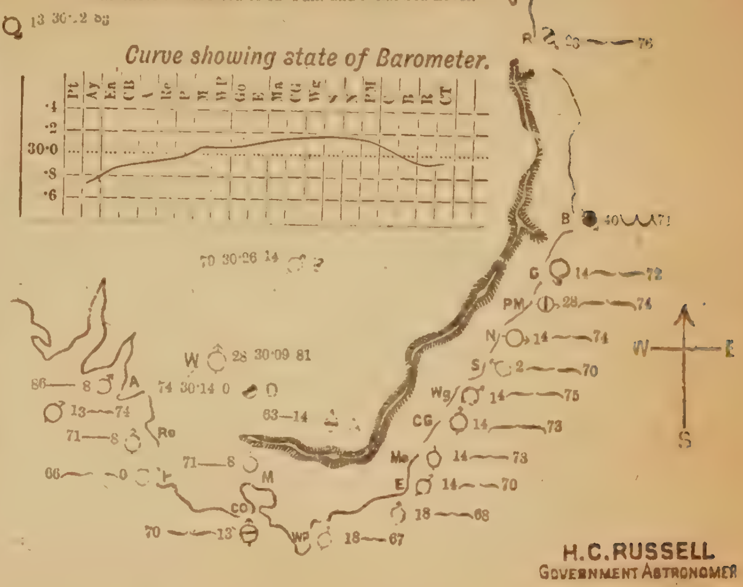
Grafton	u	91	63	0·03
[illegible]	b	73	50	0
Gunned'h	b	84	61	0
Hay	b	92	70	0
Inverell	b	79	59	0
Kiandra	b	75	38	0
[illegible]	c	80	67	0·79
[illegible]	b	79	65	0·20
[illegible]	b	89	47	0
Menindie	u	87	70	0
Molong	b	79	54	0
M'r'ng'r'll	b	81	63	0
Moree	b	95	45	0
Moruya	b	76	65	0
Moss Vale	b	70	59	0
Mt. Hope	c	97	69	0
M. Vict'ria	c	73	55	0



SYDNEY OBSERVATORY.

LATITUDE 33° 51' 41" S. LONGITUDE 10h. 4m. 50·31s. E

Average Annual Rainfall for 28 years .... 49·480

Average for 29 years from Jan. 1 to Feb. 28, 1887 .... 9·147

Total Rainfall from Jan. 1 to March 5, 1887........ 11·227

Barometers corrected to 32° Fah. and Mean Sea Level.

Mudgee	b	65	55	0
[illegible]r'mb'h	b	85	60	0
M'rr'r'ndi	b	86	59	0
M'sw'lbr'k	b	84	52	0
Narrabri	b	86	64	0
Newcastle	b	78	65	0·01
Orange	b	75	50	0
[illegible]ton	b	75	61	0
M'q'rie	c	83	66	0·1[illegible]
St'ph'n	b	80	56	0·0[illegible]
[illegible]beyan	b	71	59	0
[illegible]rundi	b	87	63	0
Singleton	b	73	67	0
SYDNEY	b	73	64	0·11
Tamw'rth	-	—	—	
Taralga	b	75	55	0
Taree	g	95	67	0·07
T'nt'rfield	g	78	58	0
Wagga	b	89	61	0
Walcha	u	68	56	0
Walgett	b	87	65	0
Warrah	b	82	59	0
W'ntw'rth	b	94	69	0
W'll'ng'ng	b	77	64	0
Young	b	95	57	0

NOTES EXPLANATORY OF MAP.

In the list of stations the column headed W.T. gives the state of the weather at 9 a.m., b standing for blue sky; c, detached clouds; d, drizzling rain; f, fog; g, gloomy; h, hazy; m, misty; n, frosty; o, overcast; p, passing showers; r, rain; s, snow; t, thunder; u, threatening. The next column, M'x gives the maximum temperature for previous 24 hours. M'n the corresponding minimum temperature; r'n, the rain for the previous 24 hours. The symbols used in the map are explained on the margin. At each coast station the wind symbol is placed like a vane pointing to the direction from which the wind is coming. A clear circle with it means fine weather; a circle with bar, cloudy weather; and a black spot, raining. Next to this symbol are placed figures denoting the number of miles the wind is moving per hour; next, a symbol showing the state of the sea; and, lastly, figures denoting the shade temperature at 9 a.m. The barometer curve shows the state of barometers round the coast from Perth to Cooktown:—Pt, Perth; Ay, Albany; Ea, Eucla; CB, Cape Borda; A, Adelaide; Rc, Robe; P, Portland; M, Melbourne; WP, Wilson's Promontory; Go, Gabo; E, Eden; Ma, Moruya; CG Jervis Bay; Wg, Wollongong; S, Sydney; N, Newcastle; PM, Port Macquarie; C, Clarence River; B, Brisbane; R, Rockhampton; Ct, Cooktown. Inland the state of barometer is given in figures at Albury, Deniliquin, Wentworth, Menindie, Bourke, and Alice Springs. The barometer curve enables one at a glance to trace the depressions, beginning with Western Australia, and passing along eastwards; northerly winds preceding them, and southerly following.

Western Australia.—Esperance Bay, fine but cloudy, with light west wind and smooth sea. Barometer, 29·72; and temperature, 64°.

South Australia.—Generally fine and warm, with light N.E. to N. winds, fallen barometers, and smooth sea. Extremes of barometers and temperature: Alice Springs, 30·05; Port Darwin, 29·53 and 86°; Robe, 71°.

Victoria.—Generally fine, clear, and warm, with light northerly winds, fallen barometers, and smooth sea; misty, hazy, and foggy on the coast. Extremes of barometers and temperature: Melbourne, 30·10; Hamilton, 29·98; Horsham, 77°; and Portland, 66°.

Tasmania.—Generally fine, with light variable winds and calms, fallen barometers, and smooth sea. Extremes of barometers and temperature: Falmouth, 30·13 and 65°; Circular Heads, 30·07; and Low Heads, 62°.

New Zealand.—Fine on North Island, with variable winds, passing showers and squally from S.W. at Bluff. Barometers: In extreme north, 29·9; to southward, 30°.

New South Wales.—Generally fine and warm, with clouds on and near the range, light N.E. to S.E. winds, fallen barometers, and smooth sea. Light rain has fallen in north coast districts, heaviest on the Clarence. Extremes of barometers and temperature at 9 a.m.: Walgett, 30·26; Gabo, 30·05. Wentworth, 81°; and Mount Victoria, 59°. Reading of the standard barometer at Sydney at 9 a.m., 30·215. For further particulars see map.

Queensland.—Generally cloudy and gloomy, with strong to fresh N.E. to S.E. winds, almost steady barometers, and rough sea. Showery in south coast districts; heavy rain with fierce squalls from S.W. at Cooktown; N.E. gale, with lightning and thunder during the night, at Boulia. Rainfall: Cooktown, 2·72; Townsville, 2·61; Cape Moreton, 1·08; Brisbane, 0·32; and Hughenden, 0·1 inches. Later: Mackay, heavy showers during last 24 hours—rainfall 3·25 inches; Barcaldine, heavy [illegible] with heavy rain, rainfall 0·[illegible] inches.

3 P.M. OBSERVATIONS.

Queensland.—Brisbane, S.E., 23, overcast and squally, with hail, temperature 71°.

Victoria.—Portland, E.S.E., 18, fine and clear, smooth sea, temperature 75°; Cape Otway, 13, fine and clear, smooth sea; Wilson's Promontory, N.E., 13, fine but cloudy, slight sea, temperature 76°.

New South Wales.—Menindie, N.N.W., 14, dull, temperature 85°; Wentworth, N.W., 14, dull and hot, temperature 85°; Deniliquin, N., 14, cloudy and close, temperature 86°; Eden, N.E., 28, fine, slight sea, temperature 76°; Moruya, N.E., 42, fresh breeze, smooth sea, temperature 75°; Cape St. George, N., 14, fine, smooth sea, temperature 79°; Sydney, N.E., fine, smooth sea; Newcastle, N.E., 6, fine, smooth sea, temperature 75°; Port Macquarie, E., fine, smooth sea, temperature 82°; Clarence River, S.E., fresh and fine, moderate sea, temperature 79°; Dubbo, calm, fine, temperature 79°; Goulburn, N.E., fine, temperature 73°.

HEIGHT OF RIVERS ABOVE SUMMER LEVEL.

Macintyre: At Mungindi, 23 feet. Barwon: At Mogil Mogil, 21 feet 6 inches; at Walgett, 32 feet 6 inches. Namoi: At Walgett, 22 feet 6 inches. Culgoa: At Goodooga, 4 feet 9 inches. Darling: At Brewarrina, 22 feet; at Bourke, 30 feet 6 inches; at Louth, 25 feet 9 inches; at Tilpa, 28 feet 11 inches; at Wilcannia, 27 feet; at Menindie, 23 feet 5 inches; at Pooncarie, 20 feet 9 inches; at Wentworth, 10 feet 5 inches. Murrumbidgee: At Wagga, 9 feet 4 inches; at Hay, 4 feet 10 inches; at Balranald, 8 feet 7 inches. Murray: At Albury, 2 feet 9 inches; at Euston, 4 feet 2 inches.

ASTRONOMICAL MEMORANDA FOR MARCH 7.

Sun rises at 5.55, sets at 6.28; Moon, 4.47 p.m., 2.13 a.m.; Mercury, 7.21 a.m., 7.9 p.m.; Venus, 7.37 a.m., 7.31 p.m.; Mars, 6.47 a.m., 7.1 p.m.; Jupiter, 8.40 p.m., 9.50 a.m.; Saturn, 3.12 p.m., 1.6 a.m. Full moon, 10th; new moon, 25th.

High water at Fort Denison: 5.22 a.m., 6.25 p.m.

H. A. LENEHAN, Acting Government Astronomer.

METEOROLOGICAL REPORTS AND MAP FOR MARCH 8, 1887.

Stations.	wt	Mx	m	Rx.
Albury ..	b	90	63	0
Armidale .	b	78	55	0
Balranald	b	107	68	0
Bathurst	c	84	51	0
Bendem'r	b	84	56	0
Bedalla	b	87	74	0
Bourke .	b	99	[illegible]	-
Buncarra	b	81	[illegible]	0
C'md'n H.,	b	81	65	[illegible]
C. St. Geo.	b	78	62	0
Carcoar ..	b	73	54	0
Casino ..	b	77	65	0·33
Cassilis .	c	78	61	[illegible]
Clarence .	r	82	70	0·[illegible]
C'nd'b'lin	b	98	51	[illegible]
Cooma .	b	88	49	0
Coonab'n.	b	89	60	0
Cowra ..	c	95	63	0
Cudg'llico	b	85	63	0
Deniliq'n.	b	91	65	0
Dubbo ..	b	92	65	0
Eden	b	77	74	0
Euston ..	b	104	70	0
Forbes ..	b	—	55	0
Glen Inn's	c	85	55	0
Goulburn	b	86	42	0

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EUCLA

Grafton	-	—	—	0
Gulgong .	u	84	55	0
Gunned'h	b	86	66	0
Hay . ..	b	99	71	0
Inverell ..	b	81	59	0
Kiandra. .	b	86	41	0
Lismore .	r	78	71	0·24
Maitland .	b	89	66	0
Marsdens.	b	90	68	0
Menindie.	b	92	78	0
Molong ..	b	81	53	0
M'r'ng'r'll	b	84	61	0
Moree ..	b	96	65	0
Moruya ..	b	82	63	0
Moss Vale	b	75	57	0
Mt. Hope	b	93	56	0
M. Vict'ria	b	76	48	0
Mudgee ..	b	92	54	0
M'rr'mb'h	b	88	59	0
M'rr'r'ndi	b	79	60	0
Mus'lbr'k	b	85	53	0
Narrabri	b	93	64	0
Newcastle	b	80	67	0
Orange ..	b	76	—	0
Penton .	c	80	58	0
P. M'q'rie	b	80	60	0·03
P. St'ph'n	b	85	62	0
Queanbeyan	b	78	59	0
Quirindi	g	90	65	0
Singleton	b	84	63	0
SYDNEY ..	b	77	65	0
Tamw'rth	-	—	—	-
Taralga ..	b	91	50	0
Taree ..	b	85	63	0
T'nt'rfield	g	74	64	0
Wagga ..	b	93	57	0
Walcha ..	g	76	53	0
Walgett ..	b	91	66	0
Warrah ..	g	87	–	0
W'ntw'rth	b	101	75	0
W'll'ng'ng	b	82	65	0
Young ..	g	96	57	0

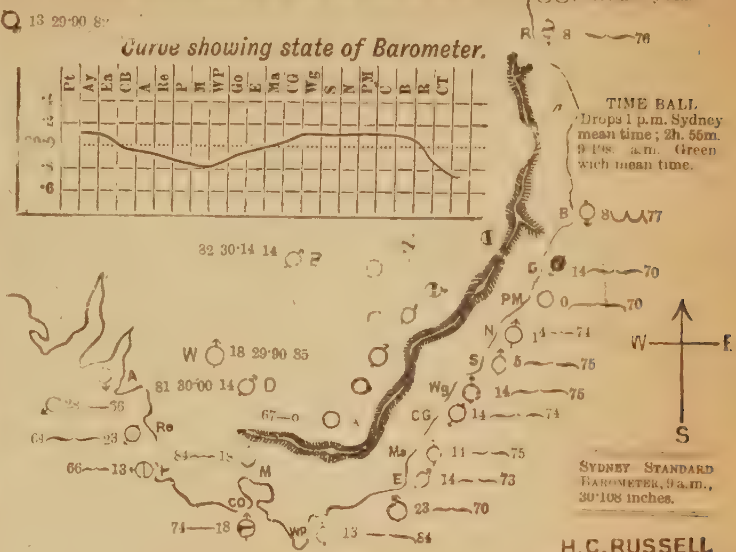
SYDNEY OBSERVATORY.

LATITUDE 33° 51' 41" S. LONGITUDE 10h. 4m. 50·81s. E.

MAGNETIC VARIATION, 9° 35' 37" E.

Average Annual Rainfall for 28 years..................49·489
Average for 29 years from Jan. 1 to Feb. 28, 1887 .... 9·147
Total rainfall from Jan. 1 to March , 1887 .... 11·227
Barometers corrected to 32° Fah. and Mean Sea Level.

Fine, wind N. Cloudy, wind E. T. storm, wind S. Rain, wind W.
If it is CALM, the symbol is used without the arrow.
Smooth sea.
Heavy sea.
Very heavy sea.



H. C. RUSSELL
GOVERNMENT ASTRONOMER

NOTES EXPLANATORY OF MAP.

In the list of stations the column headed W.T. gives the state of the weather at 9 a.m., b standing for blue sky; c, detached clouds; d, drizzling rain; f, fog; g, gloomy; h, hazy; m, misty; n, frosty; o, overcast; p, passing showers; r, rain; s, snow; t, thunder; u, threatening. The next column, M'x gives the maximum temperature for previous 24 hours. M'n the corresponding minimum temperature; r'n, the rain for the previous 24 hours. The symbols used in the map are explained on the margin. At each coast station the wind symbol is placed like a vane pointing to the direction from which the wind is coming. A clear circle with it means fine weather; a circle with bar, cloudy weather; and a black spot, raining. Next to this symbol are placed figures denoting the number of miles the wind is moving per hour; next, a symbol showing the state of the sea; and, lastly, figures denoting the shade temperature at 9 a.m. The barometer curve shows the state of barometers round the coast from Perth to Cooktown—Pt, Perth; Ay, Albany; Ea, Eucla; CB, Cape Borda; A, Adelaide; Re, Robe; P, Portland; M, Melbourne; WP, Wilson's Promontory; Go, Gabo; E, Eden; Ma, Moruya; CG, Jervis Bay; Wg, Wollongong; S, Sydney; N, Newcastle; PM, Port Macquarie; C, Clarence River; B, Brisbane; R, Rockhampton; Ct, Cooktown. Inland the state of barometer is given in figures at Albury, Deniliquin, Wentworth, Menindie, Bourke, and Alice Springs. The barometer curve enables one at a glance to trace the depressions, beginning with Western Australia, and, passing along eastwards; northerly winds preceding them, and southerly following.

9 A.M. OBSERVATIONS.

Western Australia.—Cloudy in N.W. parts, with light variable winds and calms; fine and cool in south, with easterly winds. Extremes of barometers and temperature: Esperance Bay, 30·08 and 60°; Cossack, 29·77 and 89°.

South Australia. Generally overcast, and raining lightly or threatening, with thunderstorms in north of Adelaide to Hawker, and on the Murray. Fine with scattered clouds on and near the coast, with light S. to S.W. winds, fallen barometers, and smooth to moderate sea. Rain has fallen south of Hergott; heaviest at Gladstone, 0·83; Lawra, 0·82; Caltowie, 0·70; Mannum, 0·50; Millicent, 0·40. Heavy thunderstorm occurred generally during the night. Extremes of barometers and temperature; Eucla, 30·08; Port Darwin, 29·80 and 86°; Robe, 64°.

Victoria.—Generally fine and warm, with clouds in places, light variable winds, chiefly northerly, fallen barometers, and smooth sea. Rainfall: Portland, 0·21; Hamilton, 0·07; and Cape Otway, 0·01 inches. Extremes of barometers and temperature: Omeo, 30·00; Cape Schanck, 29·81; Melbourne, 84°; and Hamilton, 62°.

Tasmania.—Showery at Hobart, foggy at Falmouth, and fine at Low Heads, with light variable winds and calms. Extremes of barometers and temperature: Hobart, 29·92 and 55°; Low Heads, 29·90 and 69°.

New Zealand.—Generally fine, with N.W. to S.W. and S. winds; squally from S.W. at Bluff. Barometers: In extreme north, 30·2; to southward, 29·9.

New South Wales.—Generally fine and warm, with clouds and unsettled weather in N.E. parts, and light rain falling on the Clarence River; light northerly winds, fallen barometers, and smooth sea. Light rain has fallen at a few stations in north coast districts. Extremes of barometers and temperature at 9 a.m.: Walgett, 30·14; Wentworth, 29·90 and 85°; Cooma, 51°. For further particulars see map.

Queensland.—Generally cloudy and unsettled, with light N.E. to S.E. winds, risen barometers, and moderate to rough sea. Showery at Normanton, Boulia, and Blackall. Intensely sultry at Cooktown. Rainfall: Boulia, 3·35; Cape Moreton, ·97; and the remainder of stations from 0·01 to 0·05 inches; Extremes of barometers and temperature: Brisbane, 30·10 Cooktown, 29·77 and 89°; Roma and Cape Moreton 72°.

3 P.M. OBSERVATIONS.

Victoria.—Cape Otway, W.N.W., 18, overcast, smooth sea, temperature 66°; Melbourne, N.E., 13, showery, with thunder since noon, temperature 69°; Cape Schanck, S., 13, showery, smooth sea, temperature 74°; Wilson's Promontory, W.N.W., 28, showery and thundery, smooth sea, temperature 67°; Lakes Entrance, N.E., 23, fine, but cloudy and sultry, temperature 81°.

New South Wales.—Deniliquin, N., 14, fine, cloudy, and hot, temperature 93°; Eden, N.E., 14, fine, smooth sea, temperature 78°; Moruya, N.E., 42, fine, moderate sea, temperature 80°; Cape St. George, N. 42, fine, but cloudy, smooth sea, temperature 75°; Sydney, N.E., 20, fine and hazy, moderate sea, temperature 76°; Newcastle, N.E., 14, fine, smooth sea, temperature 78°; Port Macquarie, N.N.E., 42, smooth sea, temperature 81°; Walgett, N.E., 14, fine, temperature 85°; Dubbo, N.W., 14, fine, temperature 81°; Goulburn, N.W., 14, fine, temperature 74°.

HEIGHT OF RIVERS ABOVE SUMMER LEVEL.

Macintyre: At Mungindi, 21 feet. Barwon: At Mogil Mogil, 22 feet 2 inches; at Walgett, 32 feet. Namoi: At Walgett, 22 feet. Culgoa: At Goodooga, 4 feet 6 inches. Darling: At Brewarrina, 19 feet; at Bourke, 30 feet 8 inches; at Louth, 26 feet 6 inches; at Tilpa, 29 feet 9 inches; at Wilcannia, 27 feet 6 inches; at Menindie, 24 feet; at Pooncarie, 20 feet 10 inches; at Wentworth, 10 feet 3 inches. Murrumbidgee: At Gundagai, 3 feet 6 inches; at Wagga Wagga, 8 feet; at Hay, 6 feet 3 inches; at Balranald, 10 feet. Murray: At Albury, 1 foot 10 inches; at Euston, 4 feet 1 inch.

ASTRONOMICAL MEMORANDA FOR MARCH 8.

Sun rises at 5.55, sets at 6.26; Moon, 5.35 p.m., 3.19 a.m.; Mercury, 7.19 a.m., 7.5 p.m.; Venus, 7.39 a.m., 7.31 p.m; Mars, 6.47 a.m., 6.59 p.m.; Jupiter, 8.36 p.m., 9.46 a.m.; Saturn, 3.8 p.m., 1.2 a.m. Full moon, 10th; new moon, 25th.

High water at Fort Denison: 6.57 a.m., 7.24 p.m.

Stations.	W.T.	Mx	m	Rn.
Albury ..	b	90	63	0
Armidale	b	[illegible]	[illegible]	0
Balranald	b	107	68	0
Bathurst	c	[illegible]	[illegible]	0
Bendem'r	b	84	56	0
Bodalla ..	b	87	54	0
Bourke ..	b	99	73	–
Buncarra	b	81	60	0
C'md'n H.	b	81	65	0
C. St. Geo.	b	78	62	0
Carcoar ..	b	75	54	0
Casino ..	b	77	65	0·33
Cassilis ..	c	78	61	0
Clarence .	r	82	70	0·2.
C'nd'b'lin	b	98	51	0
Cooma ..	b	88	49	0
Coonab'n.	b	89	60	0
Cowra ..	c	95	63	0
Cudg'llico	b	85	68	0
Deniliq'n.	b	01	65	0
Dubbo ..	b	92	65	0
Eden	b	77	74	0
Euston ..	b	104	70	0
Forbes ..	b	—	55	0
Glen Inn's	c	85	55	0
Goulburn	b	86	42	0

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EUCLA

Grafton ..	-	—	—	0
Gulgong .	u	84	55	0
Gunned'h	b	86	66	0
Hay ..	b	99	71	0
Inverell ..	b	81	59	0
Kiandra ..	b	86	41	0
Lismore .	r	78	71	0·24
Maitland .	b	89	66	0
Marsdens.	b	90	68	0
Menindie.	b	92	78	0
Molong ..	b	81	53	0
M'r'ng'r'll	b	84	61	0
Moree ..	b	96	65	0
Moruya ..	b	82	63	0
Moss Vale	b	75	57	0
Mt. Hope	b	93	56	0
M. Vict'ria	b	76	48	0
Mudgee ..	b	92	54	0
M'rr'mb'h	b	88	59	0
M'rr'r'ndi	b	79	60	0
Mus'lbr'k	b	85	53	0
Narrabri	b	90	64	0
Newcastle	b	80	67	0
Orange ..	b	76	—	0
Picton .	c	80	58	0
P. M'q'rie	b	80	60	0·03
P. St'ph'n	b	85	62	0
Q'nbeyan	b	76	59	0
Quirindi	g	90	65	0
Singleton	b	84	63	0
SYDNEY ..	b	77	65	0
Tamw'rth	-	—	—	-
Taralga ..	b	91	50	0
Taree ..	b	85	63	0
T'nt'rfield	g	74	64	0
Wagga ..	b	93	57	0
Walcha ..	g	76	53	0
Walgett ..	b	91	66	0
Warrah ..	g	87	—	0
W'ntw'rth	b	101	75	0
W'll'ng'ng	b	82	65	0
Young ..	g	96	57	0

SYDNEY OBSERVATORY.

LATITUDE 33° 51' 41" S. LONGITUDE 10h. 4m. 50·81s. E.
MAGNETIC VARIATION, 9° 35' 37" E.

Average annual Rainfall for 28 years .... 49·489
Average for 29 years from Jan. 1 to Feb. 28, 1887 .... 9·147
Total Rainfall from Jan. 1 to March , 1887 .... 11·227
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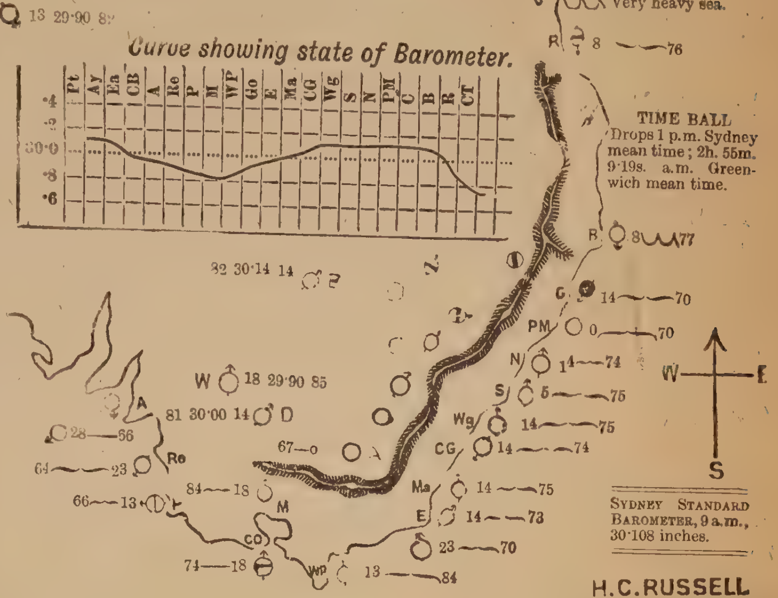
Fine, wind N. Cloudy, wind E. T. storm, wind S. Rain, wind W.
If it is CALM, the symbol is used without the arrow.
Smooth sea.
Heavy sea.
Very heavy sea.



H. C. RUSSELL
GOVERNMENT ASTRONOMER

NOTES EXPLANATORY OF MAP.

In the list of stations the column headed W.T. gives the state of the weather at 9 a.m., b standing for blue sky; c, detached clouds; d, drizzling rain; f, fog; g, gloomy; h, hazy; m, misty; n, frosty; o, overcast; p, passing showers; r, rain; s, snow; t, thunder; u, threatening. The next column. M'x gives the maximum temperature for previous 24 hours. M'n the corresponding minimum temperature; r'n, the rain for the previous 24 hours. The symbols used in the map are explained on the margin. At each coast station the wind symbol is placed like a vane pointing to the direction from which the wind is coming. A clear circle with it means fine weather; a circle with bar, cloudy weather; and a black spot, raining. Next to this symbol are placed figures denoting the number of miles the wind is moving per hour; next, a symbol showing the state of the sea; and, lastly, figures denoting the shade temperature at 9 a.m. The barometer curve shows the state of barometers round the coast from Perth to Cooktown:—Pt, Perth; Ay, Albany; Ea, Eucla; CB, Cape Borda; A, Adelaide; Re, Robe; P, Portland; M, Melbourne; W P, Wilson's Promontory; Go, Gabo; E, Eden; Ma, Moruya; C G Jervis Bay; Wg, Wollongong; S, Sydney; N, Newcastle; P M, Port Macquarie; C, Clarence River; B, Brisbane; R, Rockhampton; Ct, Cooktown. Inland the state of barometer is given in figures at Albury, Deniliquin, Wentworth, Menindie, Bourke, and Alice Springs. The barometer curve enables one at a glance to trace the depressions, beginning with Western Australia, and, passing along eastwards; northerly winds preceding them, and southerly following.

9 A.M. OBSERVATIONS.

Western Australia.—Cloudy in N.W. parts, with light variable winds and calms; fine and cool in south, with easterly winds. Extremes of barometers and temperature: Esperance Bay, 30·08 and 60·; Cossack, 29·77 and 89·.

South Australia.—Generally overcast, and raining lightly or threatening, with thunderstorms in north of Adelaide to Hawker, and on the Murray. Fine with scattered clouds on and near the coast, with light S. to S.W. winds, fallen barometers, and smooth to moderate sea. Rain has fallen south of Hergott; heaviest at Gladstone, 0·83; Lawra, 0·82; Caltowie, 0·70; Mannum, 0·50; Millicent, 0·40. Heavy thunderstorm occurred generally during the night. Extremes of barometers and temperature: Eucla, 30·08; Port Darwin, 29·80 and 86·; Robe, 64·.

Victoria.—Generally fine and warm, with clouds in places, light variable winds, chiefly northerly, fallen barometers, and smooth sea. Rainfall: Portland, 0·21; Hamilton, 0·07; and Cape Otway, 0·01 inches. Extremes of barometers and temperature: Omeo, 30·00; Cape Schanck, 29·81; Melbourne, 84·; and Hamilton, 62·.

Tasmania.—Showery at Hobart, foggy at Falmouth, and fine at Low Heads, with light variable winds and calms. Extremes of barometers and temperature: Hobart, 29·92 and 55·; Low Heads, 29·90 and 69·.

New Zealand.—Generally fine, with N.W. to S.W. and S. winds; squally from S.W. at Bluff. Barometers: In extreme north, 30·2; to southward, 29·9.

New South Wales.—Generally fine and warm, with clouds and unsettled weather in N.E. parts, and light rain falling on the Clarence River; light northerly winds, fallen barometers, and smooth sea. Light rain has fallen at a few stations in north coast districts. Extremes of barometers and temperature at 9 a.m.: Walgett, 30·14; Wentworth, 29·90 and 85·; Cooma, 51·. For further particulars see map.

Queensland.—Generally cloudy and unsettled, with light N.E. to S.E. winds, risen barometers, and moderate to rough sea. Showery at Normanton, Boulia, and Blackall. Intensely sultry at Cooktown. Rainfall: Boulia, 3·35; Cape Moreton, ·97; and the remainder of stations from 0·01 to 0·05 inches; Extremes of barometers and temperature: Brisbane, 30·10 Cooktown, 29·77 and 89·; Roma and Cape Moreton 72·.

3 P.M. OBSERVATIONS.

Victoria.—Cape Otway, W.N.W., 18, overcast, smooth sea, temperature 66·; Melbourne, N.E., 13, showery, with thunder since noon, temperature 69·; Cape Schanck, S., 13, showery, smooth sea, temperature 74·; Wilson's Promontory, W.N.W., 28, showery and thundery, smooth sea, temperature 67·; Lakes Entrance, N.E., 23, fine, but cloudy and sultry, temperature 81·.

New South Wales.—Deniliquin, N., 14, fine, cloudy, and hot, temperature 93·; Eden, N.E., 14, fine, smooth sea, temperature 78·; Moruya, N.E., 42, fine, moderate sea, temperature 80·; Cape St. George, N. 42, fine, but cloudy, smooth sea, temperature 75·; Sydney, N.E., 20, fine and hazy, moderate sea, temperature 76·; Newcastle, N.E., 14, fine, smooth sea, temperature 78·; Port Macquarie, N.N.E., 42, smooth sea, temperature 81·; Walgett, N.E., 14, fine, temperature 85·; Dubbo, N.W., 14, fine, temperature 81·; Goulburn, N.W., 14, fine, temperature 74·.

HEIGHT OF RIVERS ABOVE SUMMER LEVEL.

Macintyre: At Mungindi, 21 feet. Barwon: At Mogil Mogil, 22 feet 2 inches; at Walgett, 32 feet. Namoi: At Walgett, 22 feet. Culgoa: At Goodooga, 4 feet 6 inches. Darling: At Brewarrina, 19 feet; at Bourke, 30 feet 8 inches; at Louth, 26 feet 6 inches; at Tilpa, 29 feet 9 inches; at Wilcannia, 27 feet 6 inches; at Menindie, 24 feet; at Pooncarie, 20 feet 10 inches; at Wentworth, 10 feet 3 inches. Murrumbidgee: At Gundagai, 3 feet 6 inches; at Wagga Wagga, 8 feet; at Hay, 6 feet 3 inches; at Balranald, 10 feet. Murray: At Albury, 1 foot 10 inches; at Euston, 4 feet 1 inch.

ASTRONOMICAL MEMORANDA FOR MARCH 8.

Sun rises at 5.55, sets at 6.26; Moon, 5.35 p.m., 3.19 a.m.; Mercury, 7.19 a.m., 7.5 p.m.; Venus, 7.39 a.m., 7.31 p.m.; Mars, 6.47 a.m., 6.59 p.m.; Jupiter, 8.36 p.m., 9.46 a.m.; Saturn, 3.8 p.m., 1.2 a.m. Full moon, 10th; new moon, 25th.

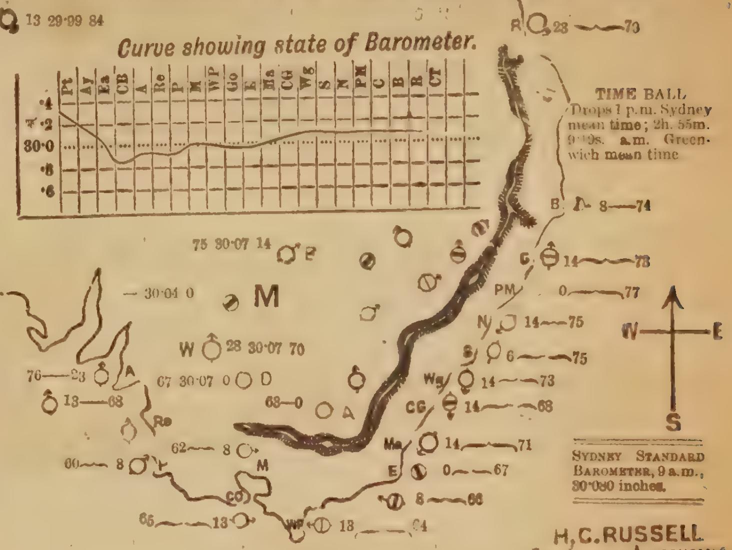
High water at Fort Denison: 6.57 a.m., 7.24 p.m.

Stations.	W.T.	Mx.	M'n.	R'n.
Albury	b	80	53	0·14
Armidale	b	79	63	0
Balranald	b	95	58	0
Bathurst	b	73	54	0
Bendem'r.	b	84	61	0
Bedalla	b	78	64	0·07
Bourke	b	82	71	0·35
Bungarra	c	83	67	0
C'md'n H.	b	83	71	0
C. St. Geo.	u	82	66	0·02
Carcoar	b	70	41	0·07
Casino	g	87	67	0·05
Cassilis	b	89	64	0
Clarence	u	90	70	0
C'nd'b'lin	b	91	50	0·82
Cooma	f	77	47	0·05
Coonab'n.	b	83	66	0
Cowra	b	85	76	0·26
Cudg'llico	u	78	65	0·08
Deniliq'n.	b	86	49	0
Dubbo	b	87	60	0
Eden	u	70	63	0·06
Euston	b	82	46	0
Forbes	b	—	57	0·23
Glen Inn's	b	84	61	0
Goulburn	g	73	56	0·06
Grafton	u	88	64	0
Gulgong	b	80	55	0
Gunned'h	b	86	60	0
Hay	c	86	60	0
Inverell	c	81	69	0
Kiandra	b	78	47	0·18
Lismore	o	84	67	0
Maitland	b	90	70	0
Marsdens	b	77	56	0·25
Menindie	u	77	67	0
Molong	b	71	54	0
M'r'ng'r'il	b	80	65	0·15
Moree	g	92	67	0
Moruya	b	77	65	0·02
Moss Vale	b	75	61	0
Mt. Hope	b	76	64	0·10
M. Vict'ria	b	73	55	0
Mudgee	b	79	53	0
M'rr'mb'h	o	70	64	0·10
M'rr'r'ndi	b	73	59	0
Mus'lbr'k	b	95	64	0
Narrabri	b	87	55	0
Newcastle	b	85	72	0
Orange	b	72	—	0·04
Picton	b	82	61	0·02
P. M'q'rie	b	80	67	0
P. St'ph'n	g	82	65	0
Q'nbeyan	g	69	60	0·10
Quirindi	c	82	69	0
Singleton	b	85	71	0
SYDNEY	b	78	69	0
Tamw'rth	-	—	—	-
Taralga	b	78	53	0
Taree	b	90	76	0
T'nt'rfield	g	80	55	0
Wagga	b	80	57	0·04
Walcha	b	79	56	0
Walgett	g	92	71	0
Warrah	b	84	—	0
W'ntw'rth	b	78	57	0
W'll'ng'ng	b	78	66	0
Young	b	73	61	0·14

SYDNEY OBSERVATORY.

LATITUDE 33° 51' 41" S. LONGITUDE 10h. 4m. 50·81s. E.
MAGNETIC VARIATION, 9° 35' 37" E.

Average Annual Rainfall for 28 years .... 49·489
Average for 29 years from Jan. 1 to Feb. 28, 1887 .... 9·147
Total Rainfall from Jan. 1 to March 9, 1887.......... 11·227
Barometers corrected to 32° Fah. and Mean Sea Level.



○ Calm wind. ⦶ Cloudy wind E. T storm, wind S. ● Rain, wind W. If it is CALM, the symbol is used without the arrow.
~ Smooth sea.
〰 Heavy sea.
Very heavy sea.

TIME BALL
Drops 1 p.m. Sydney mean time; 2h. 55m. 9·19s. a.m. Greenwich mean time

SYDNEY STANDARD BAROMETER, 9 a.m., 30·080 inches.

H. C. RUSSELL,
GOVERNMENT ASTRONOMER.

NOTES EXPLANATORY OF MAP.

In the list of stations the column headed W.T. gives the state of the weather at 9 a.m., b standing for blue sky; c, detached clouds; d, drizzling rain; f, fog; g, gloomy; h, hazy; m, misty; n, frosty; o, overcast; p, passing showers; r, rain; s, snow; t, thunder; u, threatening. The next column. M'x gives the maximum temperature for previous 24 hours. M'n the corresponding minimum temperature; r'n, the rain for the previous 24 hours. The symbols used in the map are explained on the margin. At each coast station the wind symbol is placed like a vane pointing to the direction from which the wind is coming. A clear circle with it means fine weather; a circle with bar, cloudy weather; and a black spot, raining. Next to this symbol are placed figures denoting the number of miles the wind is moving per hour; next, a symbol showing the state of the sea; and, lastly, figures denoting the shade temperature at 9 a.m. The barometer curve shows the state of barometers round the coast from Perth to Cooktown:—Pt, Perth; Ay, Albany; Ea, Eucla; CB, Cape Borda; A, Adelaide; Re, Robe; P, Portland; M, Melbourne; WP, Wilson's Promontory; Go, Gabo; E, Eden; Ma, Moruya; CG Jervis Bay; Wg, Wollongong; S, Sydney; N, Newcastle; PM, Port Macquarie; C, Clarence River; B, Brisbane; R, Rockhampton; Ct, Cooktown. Inland the state of barometer is given in figures at Albury, Deniliquin, Wentworth, Menindie, Bourke, and Alice Springs. The barometer curve enables one at a glance to trace the depressions, beginning with Western Australia, and passing along eastwards; northerly winds preceding them, and southerly following.

9 A.M. OBSERVATIONS.

Western Australia.—Fine along the west coast, with light S. to E. winds and calms; cloudy and dull in south parts, with fresh N.W. to S.W. winds, risen barometers, and moderate sea. Rainfall: Esperance Bay, 0·03 inch. Extremes of barometers and temperature: Perth, 30·28 and 58°; Cossack, 29·87; and Carnarvon, 90°.

South Australia.—Generally fine, warm, and pleasant, with fresh to strong N. to N.W. winds, fallen barometers, and moderate sea. Rainfall: Powell's Creek, 2·00 inches. Extremes of barometers and temperature: Eucla, 30·06; Cape Borda, 29·82; Port Darwin, 86°; and Macdonnell Bay, 62°.

Victoria.—Generally fine, with light N.E. to N.W. winds, risen barometers, and smooth sea. Extremes of barometers and temperature: Echuca, 30·05; Portland, 29·92 and 60°; Horsham, 73°.

Tasmania.—Generally fine, with clouds in north parts, light westerly winds and calms, risen barometers, and moderate sea. Extremes of barometers and temperature: Circular Heads, 29·96 and 61°; Hobart, 29·84; and Southport 65°.

New Zealand.—Generally fine, with N. to N.W. winds and calms. Barometers: Russell, 30·3; Wellington, 30·1; and Bluff, 29·9.

New South Wales.—Generally fine and warm, with clouds in scattered places, principally in N.E. parts; light variable winds and calms, risen barometers, and smooth sea. Light rain has fallen at scattered places; the greatest amount was recorded at Brewarrina, where 1·05 inches fell yesterday. Extremes of barometers and temperature: Clarence, 30·08; Gabo, 29·96; Walgett, 77°; and Cooma, 79°. Extra Stations; Temora, 0·25 inch rain; now calm and cloudy. For further particulars see map.

Queensland.—Generally more or less cloudy and unsettled, with light rain falling at Hughenden and Townsville, light N.E. to S.E. winds and calms, almost steady barometers, and moderate sea. Rainfall: Townsville, 3·90; Blackall, 0·79; Brisbane, 0·41; and Boulia, 0·35 inches. The last mentioned station reports that the present flood in the Bourke River is the highest that has been known. Extremes of barometers and temperature: Brisbane, 30·05 and 74°; Normanton, 29·93; and Cooktown, 90°.

3 P.M. OBSERVATIONS.

Victoria.—Portland, N., 28, fine, hot wind, smooth sea, temperature 82°; Cape Otway, E., 18, fine, and hot, smooth sea, temperature 75°; Melbourne, N.N.E., 13, fine, temperature 84°; Cape Schanck, N., 23, fine but cloudy, smooth sea, temperature 72°; Wilson's Promontory, N.E., 13, fine but cloudy, smooth sea, temperature 72°; Lakes' Entrance, E., 23, fine, temperature 72°.

New South Wales.—Menindie, calm, fine, but cloudy and hot, temperature 80°; Wentworth, N., 14, fine, temperature 75°; Deniliquin, calm, cloudy and dull, temperature 82°; Eden, E.N.E., 14, fine, smooth sea, temperature 71°; Moruya, N.E., 28, fine, smooth sea, temperature 76°; Cape St. George, S.E., 28, fine, smooth sea, temperature 76°; Sydney, E., 12, fine and warm, smooth sea, temperature 75°; Newcastle, S.S.E., 14, fine, smooth sea, temperature 75°; Port Macquarie, E.S.E., 14, fine, smooth sea, temperature 84°; Clarence River, N.E., 14, dull and fresh, smooth sea, temperature, 74°; Walgett, N.E., 14, dull, like rain, temperature 84°; Dubbo, N.E., 14, fine, but cloudy, temperature 80°; Goulburn, N.W., 14, fine, temperature 75°.

Queensland.—Brisbane, N., 8, overcast, temperature 81°; Roma, N.E., 13, fine, temperature 83°.

HEIGHT OF RIVERS ABOVE SUMMER LEVEL.

Macintyre: At Mungindi, 20 feet. **Barwon:** At Mogil Mogil, 21 feet 6 inches; at Walgett, 32 feet 6 inches. **Namoi:** At Walgett, 21 feet 4 inches. **Culgoa:** At Goodooga, 3 feet 11 inches. **Darling:** At Brewarrina, 18 feet; at Bourke, 31 feet; at Louth, 27 feet 3 inches; at Tilpa, 30 feet 4 inches; at Wilcannia, 28 feet 4 inches. **Darling:** At Menindie, 24 feet 4 inches; at Pooncarie, 21 feet; at Wentworth, 10 feet. **Murrumbidgee:** At Gundagai, 8 feet 3 inches; at Wagga, 5 feet 3 inches; at Hay, 8 feet; at Balranald, 10 feet. **Murray:** At Albury, 1 foot 10 inches; at Euston, 4 feet 4 inches.

ASTRONOMICAL MEMORANDA FOR MARCH 10.

Sun rises at 5.57, sets at 6.24; Moon, 7.2 p.m., 5.37 a.m.; Mercury, 7.16 a.m., 6.58 p.m.; Venus, 7.43 a.m., 7.29 p.m.; Mars, 6.46 a.m., 6.55 p.m.; Jupiter, 8.28 p.m., 9.38 a.m.; Saturn, 3 p.m., 12.54 a.m. Full moon, 10th; new moon, 25th.

High water at Fort Denison: 8.36 a.m., 8.59 p.m.

H. A. LENEHAN,
Acting-Government Astronomer.

Stations	W'r	M'x	M'n	R'n.
Albury ..	c	84	62	0·35
Armidale .	b	82	61	0
Balranald	b	102	60	0
Bathurst	c	87	63	0
Bendem'r	b	85	61	0
Bodalla ..	f	84	66	0
Bourke	b	93	75	0
Buncarra	b	86	67	0
C'md'n H.	b	86	72	0
C. St. Geo.	b	80	66	0
Carcoar ..	u	75	56	0
Casino .	b	85	67	0
Cassilis .	b	80	67	0
Clarence .	b	80	71	0·01
C'nd'b'lin	r	91	57	0·05
Cooma	g	84	55	0
Coonab'n.	b	86	61	0
Cowra	u	88	68	0
Cudg'llico	r	74	72	0·13
Deniliq'n.	b	95	61	0
Dubbo .	b	89	67	0
Eden .	b	72	63	0
Euston ..	b	101	58	0
Forbes ..	u	—	31	0
Glen Inn's	b	87	60	0
Goulburn	b	85	60	0
Grafton .	b	88	70	0
Gulgong .	-	-	-	-
Gunned'h	b	89	70	0
Hay .	b	86	68	0
Inverell ..	b	89	60	0
Kiandra ..	c	79	58	0
Lismore .	b	89	70	0·01
Maitland .	b	90	70	0
Marsdens.	c	87	77	0·01
Menindie.	r	78	68	0·10
Molong ..	g	72	65	0
M'r'ng'r'll	r	84	72	0·05
Moree	b	92	65	0
Moruya ..	b	79	65	0
Moss Vale	b	80	62	0
Mt. Hope	r	86	68	0·25
M. Vict'ria	b	80	60	0
Mudgee ..	b	84	63	0
M'r'mb'n	c	86	67	0
M'rr'r'udi	c	81	59	0
Mus'lbr'k	b	92	65	0
arrabri	b	92	79	0
Newcastle	b	82	69	0
Orange .	c	79	—	0
ton .	g	81	62	0
M'q'rie	b	83	66	0
St'ph'n	g	82	60	–
ndeyan	b	75	61	0·03
Quirindi	b	89	69	0
Singleton	b	87	74	0
SYDNEY ..	b	79	69	0
Tamw'rth	-	—	—	0
Taralga ..	b	81	58	0
Taree ..	b	89	67	0
T'nt'rfield	c	86	56	0
Wagga ..	c	87	58	0
Walcha ..	b	83	57	0
Walgett ..	g	96	72	0
Warrah ..	b	85	—	0
W'ntw'rth	b	94	60	0
W'll'ng'ng	c	83	71	0
Young ..	r	88	66	0

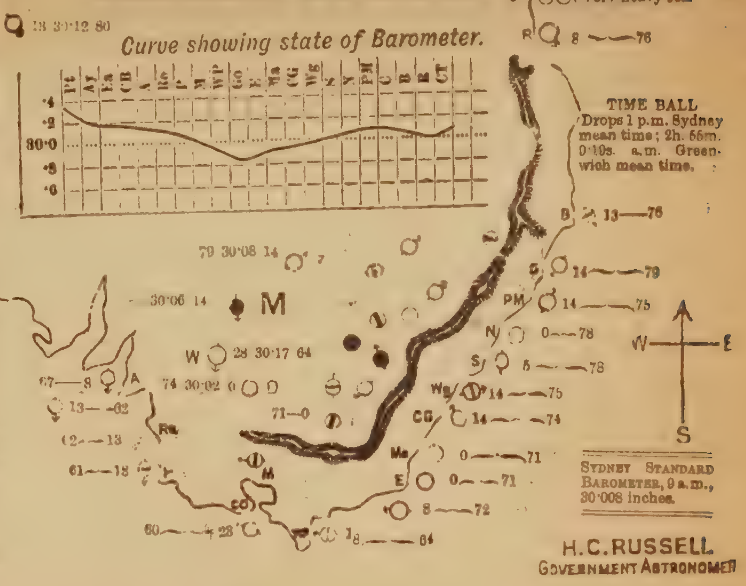
SYDNEY OBSERVATORY.

LATITUDE 33° 51' 41" S. LONGITUDE 10h. 4m. 50·81s. E.
MAGNETIC VARIATION, 9° 35' 37" E.

Average Annual Rainfall for 28 years ... ... 49·480
Average for 29 years from Jan. 1 to Feb. 28, 1887 ... 9·147
Total Rainfall from Jan. 1 to March 10, 1887 ... 11·227

Barometers corrected to 32° Fah. and Mean Sea Level.

Fine, wind N. — Cloudy, wind E. — T. storm, wind S. — Rain, wind W.
If it is CALM, the symbol is used without the arrow.
Smooth sea.
Heavy sea.
Very heavy sea.



NOTES EXPLANATORY OF MAP.

In the list of stations the column headed W.T. gives the state of the weather at 9 a.m., b standing for blue sky; c, detached clouds; d, drizzling rain; f, fog; g, gloomy; h, hazy; m, misty; h, frosty; o, overcast; p, passing showers; r, rain; s, snow; t, thunder; u, threatening. The next column, M'x gives the maximum temperature for previous 24 hours. M'n the corresponding minimum temperature; R'n, the rain for the previous 24 hours. The symbols used in the map are explained on the margin. At each coast station the wind symbol is placed like a vane pointing to the direction from which the wind is coming. A clear circle with it means fine weather; a circle with bar, cloudy weather; and a black spot, raining. Next to this symbol are placed figures denoting the number of miles the wind is moving per hour; next, a symbol showing the state of the sea; and, lastly, figures denoting the shade temperature at 9 a.m. The barometer curve shows the state of barometers round the coast from Perth to Cooktown:—Pt, Perth; Ay, Albany; Ea, Eucla; CB, Cape Borda; A, Adelaide; Re, Robe; P, Portland; M, Melbourne; W P, Wilson's Promontory; Go, Gabo; E, Eden; Ma, Moruya; C G, Jervis Bay; Wg, Wollongong; S, Sydney; N, Newcastle; PM, Port Macquarie; C, Clarence River; B, Brisbane; R, Rockhampton; Ct, Cooktown. Inland the state of barometer is given in figures at Albury, Deniliquin, Wentworth, Menindie, Bourke, and Alice Springs. The barometer curve enables one at a glance to trace the depressions, beginning with Western Australia, and passing along eastwards; northerly winds preceding them, and southerly following.

9 A.M. OBSERVATIONS.

West Australia.—Generally fine, with clouds in N.E. parts light N. to E. winds, steady barometers, and smooth to moderate sea. Extremes of barometers and temperature: Perth, 30·25; Cossack, 29·91 and 83°; Esperance Bay, 52°.

South Australia.—Generally fine and cool, with scattered clouds, light southerly winds, risen barometers, and smooth sea. Rainfall: Yam Creek, 1·50 inches. Extremes of barometers and temperature: Eucla, 30·18; Port Darwin, 29·82 and 90°; Macdonnell Bay, 62°.

Victoria.—Generally fine but cloudy, with light south to west winds, risen barometers, and moderate sea; squally at Wilson's Promontory. Extremes of barometers and temperature: Cape Otway, 30·06 and 60°; Horsham and Omeo, 75°.

Tasmania.—Generally fine but cloudy, with light to fresh S. to W. winds, fallen barometers, and moderate sea. Extremes of barometers and temperature: Circular Head, 29·92 and 65°; Hobart, 29·80; and Southport 60°.

New Zealand.—Calm and gloomy in extreme north; fine, with strong N.W. to S.W. winds to southward, and generally rough sea. Barometers: Russell, 30·3; Wellington, 29·9; and Bluff, 29·7.

New South Wales.—Fine in the eastern division, cloudy and unsettled west of the range, and raining along the upper Lachlan, and westward to Mount Hope and Menindie. Light rain has fallen at a few scattered places. Extremes of barometers and temperature: Wentworth, 30·17; Gabo Island, 29·88; Walgett, 81°, and Cooma 55°. For further particulars see map.

Queensland.—Generally unsettled and cloudy, with rain falling at Boulia and Townsville, light N.E. to S.E. winds, slightly risen barometers, and smooth to moderate sea. Heavy showers at Boulia and Cooktown, 2·40 and 1·90 inches fell respectively. At other stations the rain measured 0·68 at Townsville, 0·46 at Cape Moreton, 0·16 at Hughenden, and at Brisbane 0·05 inches. It is now clearing in S.E. parts. Extremes of barometers and temperature: Brisbane, 30·06; Normanton, 29·85; Cooktown, 87°, and Roma, 74°.

3 P.M. OBSERVATIONS.

Victoria.—Portland, S.S.W., 23, fine, smooth sea, temperature 66°; Cape Otway, W.S.W., 18, cloudy, smooth sea, temperature 64°; Melbourne, S., 13, fine, temperature 69°; Cape Schanck, S., 13, fine but cloudy, smooth sea, temperature 70°; Wilson's Promontory, W.S.W., 23, cloudy and squally, moderate sea, temperature 65°; Lakes' Entrance, W.S.W., 23, cloudy, temperature 70°.

New South Wales.—Menindie, calm, raining steadily, temperature 76°; Wentworth, S., 14, fine, temperature 73°; Deniliquin, W., 14, fine and hot, temperature 86°; Eden, E., 14, fine, but cloudy, smooth sea, temperature 73°; Moruya, N.E., raining, smooth sea, temperature 78°; Cape St. George, N., 14, fine, smooth sea, temperature 76°; Sydney, E., 14, fine, smooth sea, temperature 78°; Newcastle, N.E., 14, fine, smooth sea, temperature 78°; Port Macquarie, N.N.E., 42, fine, smooth sea, temperature 82°; Dubbo, N.E., 14, fine, but cloudy, temperature 89°; Goulburn, W., 14, dull, temperature 75°.

Queensland.—Brisbane, E.S.E., 18, fine, but cloudy; temperature 81°; Roma, N.E., 18, fine, temperature 84°.

HEIGHT OF RIVERS ABOVE SUMMER LEVEL.

Macintyre: At Mungindi, 19 feet 6 inches. Barwon: At Mogil Mogil, 21 feet; at Walgett, 32 feet 4 inches. Namoi: At Walgett, 21 feet. Culgoa: At Goodooga, 3 feet 10 inches. Darling: At Brewarrina, 17 feet 6 inches; at Bourke, 31 feet 3 inches; at Louth, 27 feet 9 inches; at Tilpa, 30 feet 7 inches; at Wilcannia, 28 feet 8 inches; at Menindie, 24 feet 5 inches; at Pooncarie, 21 feet; at Wentworth, 10 feet. Murrumbidgee: At Gundagai, 4 feet; at Wagga, 4 feet 6 inches; at Hay, 9 feet; at Balranald, 9 feet 5 inches. Murray: At Albury, 1 foot 11 inches; at Euston, 4 feet 10 inches.

ASTRONOMICAL MEMORANDA FOR MARCH 11.

Sun rises at 5.57, sets at 6.23; Moon, 7.44 p.m., 6.48 a.m.; Mercury, 7.15 a.m., 6.55 p.m.; Venus, 7.45 a.m., 7.28 p.m; Mars, 6.45 a.m., 6.53 p.m.; Jupiter, 8.24 p.m., 9.34 a.m.; Saturn, 2.56 p.m., 12.50 a.m. Full moon, 10th; new moon, 25th.

High water at Fort Denison: 9.21 a.m., 9.42 p.m.

H. A. LENEHAN,
Acting Government Astronomer.

SYDNEY OBSERVATORY

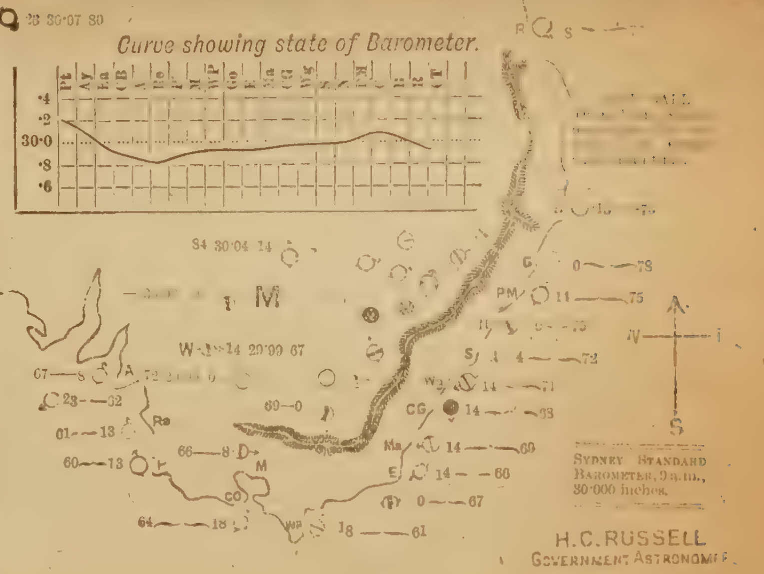
[illegible]

... b. 28, 1887 .... 9·147

... March 11, 1887 ...... 11·497

Barometers corrected to 32° Fah. and Mean Sea Level.

Stations.	W.	M'x	M'n	R'n
[illegible]				
[illegible]	b			
[illegible]				
[illegible]	u			
[illegible]	c			
Bedalla ..	g	84	65	[illegible]
Bourke ..	b	96	[illegible]	0
Buncarra	c	87	69	[illegible]
C'md'n H.	b	83	69	0
C. St. Geo.	r	83	68	0·92
Carcoar ..	u	75	58	0·48
Casino ..	b	88	61	0
Cassilis ..	o	81	71	0·91
Clarence .	b	89	71	0
C'nd'b'lin .	u	87	53	0·39
Cooma ..	b	93	54	0
Coonab'n.	c	92	64	0
Cowra ..	u	81	61	0·43
Cudg'llico	u	79	69	0·2
Deniliq'n.	g	98	68	0
Dubbo ..	b	94	67	0
Eden	b	78	66	0
Euston ..	b	95	56	0
Forbes ..	b	—	68	1·06
Glen Inn's	b	89	69	0
Goulburn	u	81	60	0·29
Grafton ..	b	92	66	0
Gulgong .	u	88	65	0
Gunned'h	c	89	62	0
Hay ..	u	96	67	0
Inverell ..	c	83	69	0
Kiandra ..	c	75	50	0·14
Lismore .	f	86	66	0
Maitland .	g	92	74	0
Marsdens.	b	78	71	0·77
Menindie.	u	73	66	0·67
Molong ..	r	89	63	0·35
M'r'ng'r'	o	76	68	1·20
Moree ..	g	94	68	0
Moruya ..	g	81	65	0·33
Moss Vale	u	82	64	1·09
Mt. Hope	r	81	68	0·43
M. Vict'ria	c	81	58	1·50
Mudgee ..		94	64	0·26
M'r'mb'h'	b	70	63	0·83
M'rr'r'ndi	b	86	62	0
Mus'lbr'k	g	85	64	0·24
Narrabri	b	95	70	0·08
Newcastle	g	85	70	0
Orange ..	r	79	58	0
Picton ..	o	87	62	1·47
P. M'q'rie	b	81	63	0
P. St'p'n	b	82	[illegible]	0
Q'nbeyan	c	74	62	0·28
Quir'ndi	c	93	72	0·86
Singleton	b	80	76	0
SYDNEY ..	o	81	70	0·27
Tamw'th	-	—	—	-
Taralga ..	u	80	49	0·10
Taree ..	b	82	67	0
T'nt'rfield	c	85	66	0
Wagga ..	b	87	58	1·40
Walcha ..	g	83	59	0
Walgett ..	b	98	73	0
Warrah ..	g	97	—	0·16
W'ntw'rth	b	—	—	0
W'll'ng'ng	c	85	70	0·75
Young ..	g	74	62	1·02



NOTES EXPLANATORY OF MAP.

In the list of stations the column headed W. gives the state of the weather at 9 a.m., b standing for blue sky, c, detached clouds, d, drizzling rain; f, fog, g, gloomy, ...; m, misty, n, frosty; o, overcast; p, passing showers; r, rain; s, snow; t, thunder; u, threatening. The next column, M'x gives the maximum temperature for previous 24 hours. M'n the corresponding minimum temperature; r'n, the rain for the previous 24 hours. The symbols used in the map are explained on the margin. At each coast station the wind symbol is placed like a vane pointing to the direction from which the wind is coming. A clear circle with it means fine weather; a circle with ... weather; and a black spot, raining. Next to this symbol are placed figures denoting the number of miles the wind is moving per hour; next, a symbol showing the state of the sea; and, lastly, figures denoting the shade temperature at 9 a.m. The barometer curve shows the state of barometers round the coast from Perth to Cooktown: Pt, Perth; Ay, Albany; Ea, Eucla; CB, Cape Borda; A, Adelaide; Re, Robe; P, Portland; M, Melbourne; W P, Wilson's Promontory; Go, Gabo; E, Eden; Ma, Moruya; CG, Jervis Bay; Wg, Wollongong; S, Sydney; N, Newcastle; PM, Port Macquarie; C, Clarence River; B, Brisbane; R, Rockhampton; Ct, Cooktown. Inland the state of barometer is given in figures at Albury, Deniliquin, Wentworth, ... Springs. The barometer curve enables one at a glance to trace the ... beginning with Western Australia, and passing along eastwards; northerly winds preceding them, and southerly following.

9 A.M. OBSERVATIONS.

Western Australia.—Fine, with light easterly wind easterly winds, steady barometers, and smooth to moderate sea in east parts; on the south coast, cloudy, gloomy, and squally, with strong N. to W. winds and rough sea. Extreme of barometers and temperature: Geraldton, 30·25; Cossack, 29·89 and 88°; Esperance Bay, 60°.

South Australia.—Generally fine and pleasant, with light northerly winds and calms, fallen barometers, and moderate sea. Rainfall: Daly Water, 0·12 inch. Extremes of barometers and temperature: Streaky Bay, 29·97; Port Darwin, 29·82 and 88°; M'Donnell Bay, 59°.

Victoria.—Generally fine, with clouds in S.E. parts, light N. to E. winds, fallen barometers, and smooth sea. Squally and misty at Wilson's Promontory. Extremes of barometers and temperature: Omeo, 29·94; Portland, 29·84; Ballarat, 70°; and Hamilton, 60°.

Tasmania.—Generally fine but cloudy, with light north winds and calms, risen barometers, and smooth sea. Rainfall: 0·02 inch at Hobart. Extremes of barometers and temperature: Low Heads, 29·96 and 60°; Southport, 29·80 and 64°.

New Zealand.—Generally fine, with calm in extreme north, and N. to N.W. winds in south parts. Barometers: Russell, 30·3; Wellington, 30·0; and Bluff, 30·1.

New South Wales.—Generally more or less cloudy and unsettled, with light rain falling in the districts between the Lachlan and Bogan rivers, and at Cape St. George; light variable winds and calms, slightly fallen barometers, and smooth sea. Rain has fallen generally in south parts; heaviest on and near the dividing range, and along the Upper Lachlan and Murrumbidgee. Ten stations report from 1 to 1½ inches fallen. Extremes of barometers and temperature: Clarence Heads, 30·09; Hay, 29·94; Bourke, 84°; and Cooma, 54°. Extra station: Camden, rainfall 1·05 inch, rather sultry and overcast. Wilcannia, rainfall 1·43 inches, and cloudy; Hill End, rainfall 1·15, and still raining. For further particulars see map.

Queensland.—Fine but cloudy in south, cloudy and gloomy in extreme north parts, with light N.E. to S.E. winds, fallen barometers and smooth sea. Rainfall: Hughenden, 1·75; Cooktown, 1·25; Boulia, 0·92, Townsville, 0·35 inches, and stations in S.E. and S. parts, from 0·01 to 0·05 inches. Extremes of barometers and temperature: Brisbane, 30·00; Normanton, 29·85; Cooktown and Normanton, 83°; Townsville and Cape Moreton, 74°.

3 P.M. OBSERVATIONS.

Victoria.—Melbourne, S.W., 8, fine and sultry, temperature [illegible].

New South Wales.—Menindie, calm, fine, but cloudy, ... temperature 79°; Wentworth, N., 14, fine, temperature [illegible]; Deniliquin, N., 14, fine and close, temperature 86°; Eden, N.E., 14, fine, smooth sea, temperature 71°; Moruya, N.E., 14, fine, but dull, smooth sea, temperature 78°; Cape St. George, S., 13, fine, but cloudy, smooth sea, temperature 75°; Sydney, E.N.E., 12, cloudy and dull all day, smooth sea, temperature 7[illegible]; Newcastle, E., 14, fine, smooth sea, temperature 76°; Port Macquarie, N.N.E., 14, fine, smooth sea, temperature 81°; Clarence River, S.E., 14, fine, smooth sea, temperature 81°; Walgett, calm, fine and hot, temperature 89°; Dubbo, W., 14, fine, temperature [illegible]; Goulburn, N.W., 14, dull, temperature 75°.

Queensland.—Brisbane, E.S.E., 23, cloudy, temperature [illegible]; Roma, calm, fine, temperature [illegible].

HEIGHT OF RIVERS ABOVE SUMMER LEVEL.

Macintyre: At Mungindi, 10 feet. Barwon: At Mogil Mogil, 20 feet 6 inches; at Walgett, 32 feet. Namoi: At Wagga [illegible], 2 feet 8 inches. Culgoa: At Goodooga, 3 feet [illegible] inches. Darling: At Brewarrina, 17 feet 6 inches; at Bourke, 21 feet [illegible] inch; at Louth, 28 feet 1 inch; at Tilpa, 30 feet 11 inches; at Wilcannia, 28 feet 10 inches; at Menindie, 24 feet 6 inches; at Pooncarie, 20 feet 2 inches; at Wentworth, 10 feet. Murrumbidgee: At Gundagai, 1 feet 6 inches; at Wagga, 3 feet 9 inches; at Hay, 9 feet 10 inches; at Balranald, 9 feet 6 inches. Murray: At Albury, 3 feet 2 inches; at Euston, 5 feet.

ASTRONOMICAL MEMORANDA FOR MARCH 12.

Sun rises at 5.58, sets at 6.22; Moon, 8.25 p.m., 7.59 a.m.; Mercury, 7.13 a.m., 6.51 p.m.; Venus, 7.47 a.m., 7.27 p.m.; Mars, 6.45 a.m., 6.51 p.m.; Jupiter, 8.20 p.m., 9.30 a.m.; Saturn, 2.5? p.m., 12.46 a.m. Full moon, 10th; new moon, 25th.

High water at Fort Denison: 10.? a.m., 10.24 p.m.

H. A. LENEHAN,
Acting Government Astronomer.

Stations	W.T.	Mx	Mn	R'n
Albury	[illegible]	80	59	0·79
Armidale	b	85	58	0
Balranald	[illegible]	83	54	0
Bathurst	[illegible]	78	63	0
Bendem'r	c	78	61	0·06
Bodalla	g	82	68	0
Bourke	b	98	70	0
Bundarra	b	86	61	0
C'nd'n H.	b	82	70	0
C. St. Geo.	b	79	68	0
Carcoar	u	85	66	0·10
Casino	c	85	61	0
Cassilis	b	81	68	0
Clarence	c	88	70	0
C'nd'b'lin	u	90	56	1·22
Cooma	r	87	62	0·07
Coonab'n.	b	90	62	0
Cowra	c	88	71	0·80
Cudg'llico	u	72	70	0·48
Deniliq'n.	g	94	61	0·14
Dubbo	b	93	67	0·03
Eden	r	78	68	0
Euston	b	103	57	0
Forbes	u	—	69	0·10
Glen Inn's	b	85	60	0
Goulburn	o	84	64	0·04
Grafton	b	94	63	0
Gulgong	b	86	63	0
Gunned'h	b	87	72	0
Hay	u	87	68	0·26
Inverell	b	88	66	0
Kiandra	r	78	57	2·31
Lismore	r	83	60	0·08
Maitland	c	92	71	0
Marsdens.	u	88	73	0·16
Menindie.	g	71	66	0·81
Molong	b	84	64	0·73
M'r'ng'r'll	c	80	68	0·72
Moree	b	92	66	0
Moruya	u	79	68	0
Moss Vale	b	79	66	0·35
Mt. Hope	r	83	69	0·91
M. Vict'ria	b	77	61	0·34
Mudgee	b	90	61	0·03
M'r'mb'h	c	79	69	0·22
M'rr'r'ndi	c	85	62	0
M'ss'lbr'k	b	94	63	0
Narrabri	b	92	65	0
Newcastle	b	82	69	0
Orange	o	79		0·05
[illegible]ton	u	80	69	0·05
P. M'q'rie	b	79	66	0
P. St'ph'n	b	82	66	0
Queanbeyan	c	76	62	0·14
Quirindi	b	92	72	0
Singleton	b	88	71	0
Sydney	b	79	69	0
Tamw'rth	b	—	—	0
Taralga	b	84	60	0
Taree	b	91	68	0
T'nt'rfield	g	84	70	0
Wagga	r	88	61	3·02
Walcha	o	83	51	0·20
Walgett	b	96	76	0
Warrah	b	90	—	0
W'ntw'rth	b	90	63	0
W'll'ng'ng	b	74	71	0
Young	r	81	60	0·02

SYDNEY OBSERVATORY.

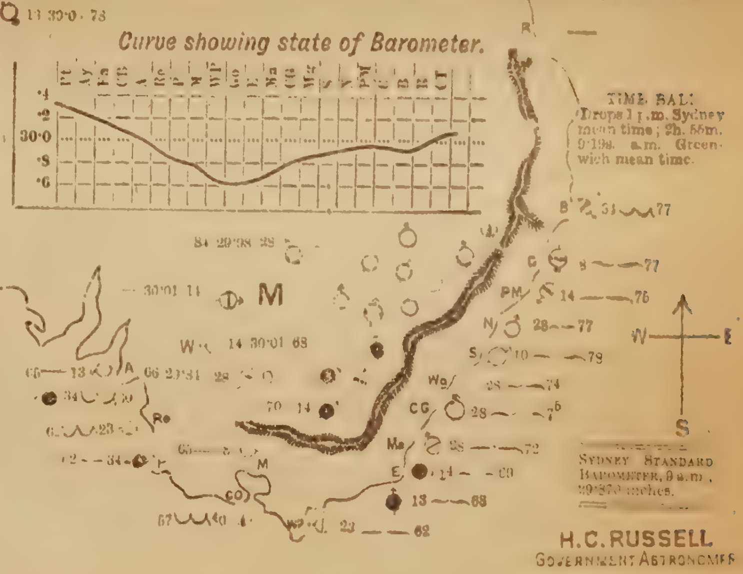
Latitude 33° 51' 41" S. Longitude 10h. 4m. 50·31s. E.

Magnetic Variation, 9° 35' 37" E.

Average Annual Rainfall for 28 years .... 49·480
Average for 30 years from Jan. 1 to Feb. 28, 1887 ... 9·147
Total Rainfall from Jan. 1 to March 12, 1887 ... 7·100

Barometers corrected to 32° Fah. and Mean Sea Level.

Wind 3 ... wind W ... without the arrow ... Smooth sea. Heavy sea. Very heavy sea.



NOTES EXPLANATORY OF MAP.

In the list of stations the column headed W.T. gives the state of the weather at 9 a.m., b standing for blue sky; c, detached clouds; d, drizzling rain; f, fog; g, gloomy; h, hazy; m, misty; n, frosty; o, overcast; p, passing showers; r, rain; s, snow; t, thunder; u, threatening. The next column, M'x gives the maximum temperature for previous 24 hours. M'n the corresponding minimum temperature; r'n, the rain for the previous 24 hours. The symbols used in the map are explained on the margin. At each coast station the wind symbol is placed like a vane pointing to the direction from which the wind is coming. A clear circle with it means fine weather; a circle with bar, cloudy weather, and a black spot, raining. Next to this symbol are placed figures denoting the number of miles the wind is moving per hour; next, a symbol showing the state of the sea, and, lastly, figures denoting the shade temperature at 9 a.m. The barometer curve shows the state of barometers round the coast from Perth to Cooktown:—Pt, Perth; Ay, Albany; Ea, Eucla; CB, Cape Borda; A, Adelaide; Re, Robe; P, Portland; M, Melbourne; WP, Wilson's Promontory, Go, Gabo; E, Eden; Ma, Moruya; CG, Jervis Bay; Wg, Wollongong, S, Sydney, N, Newcastle; PM, Port Macquarie; C, Clarence River, B, Brisbane; R, Rockhampton; Ct, Cooktown. Inland the state of barometer is given in figures at Albury, Deniliquin, Wentworth, Menindie, Bourke, and Alice Springs. The barometer curve enables one at a glance to trace the depressions, beginning with Western Australia, and passing along eastwards; northerly winds preceding them, and southerly following.

9 A.M. OBSERVATIONS.

Western Australia. Generally fine, with E. to S. winds on the east coast, westerly winds in south, risen barometers, and smooth to moderate sea, except off Cossack and Esperance Bay, where the sea is rough. Extremes of barometers and temperature: Perth, 30·29 and 59°; Cossack, 29·85 and 89°.

South Australia.—Generally fine and cool, with scattered clouds in parts, strong S. to S.W. Winds, risen barometers, and rough sea. Rain has fallen over Mount Lofty Ranges and on the coast, heaviest at Macclesfield, 0·36 inch; Claredon, 0·29; Mintain, 0·21; and in Nothern Territory, Yam Creek, 1·15 inch. Extremes of barometers and temperature: Eucla, 30·19; Port Darwin, 29·82 and 87°; M'Donnell Bay, 61°.

Victoria.—Generally more or less cloudy and threatening, with rain falling in places of E. parts, moderate to strong westerly winds, fallen barometers, and moderate to rough sea. Squally on the coast. Rainfall: Omeo, 0·27; Lake's Entrance, 0·34; Cape Otway, 0·06, and in S.W. from 0·02 to 0·03 inch. Extremes of barometers and temperature: Ballarat, 29·89; Wilson's Promontory, 29·65; Horsham, 72°; and Hamilton, 59°.

Tasmania.—Showery from W. at Low Heads, fine along the east coast, with easterly winds; fallen barometers, and moderate sea. Extremes of barometers and temperature: Low Heads, 29·64; Southport, 29·44 and 60°; Hobart, 66°.

New Zealand.—Generally fine, with calms on North Island, and N.E. winds in extreme south parts. Barometers: Russell, 30·3; Wellington and Bluff, 30·2.

New South Wales.—Generally more or less cloudy and unsettled, with heavy rain falling in south parts, light to fresh northerly winds, fallen barometers, and smooth sea. Rain has fallen at scattered places, principally in S. and S.W., and heaviest on the ranges and in extreme west parts; Wilcannia reports 4·40, Wagga 3·02, Kiandra 2·31, and Condobolin 1·22 inches respectively. Extremes of barometers and temperature: Wentworth and Menindie, 30·01; Gabo, 29·66; Bourke, 84°; and Kiandra, 60°. Extra station: Hill End, 0·10 inch rain fallen, now cloudy; Lord Howe Island, 0·12 inch. For further particulars see map.

Queensland.—Passing showers and calms in extreme north, cloudy and unsettled in south parts, with light S. to E. winds; rough sea off Cape Moreton. Rainfall: Normanton, 0·90; Cooktown, 0·70; Hugenden, 0·26; and Brisbane, 0·03 inch. Extremes of barometers and temperature: Cooktown, 30·04 and 70°; Cape Moreton, 29·85 and 77°.

3 P.M. OBSERVATIONS.

Victoria.—Portland, W., 40, cloudy and squally, smooth sea, temperature 65°; Cape Otway, W.N.W., 48, hazy and cloudy; high sea, temperature 64°; Wilson's Promontory, W., overcast and squally, rough sea, temperature 63°.

New South Wales.—Menindie, W.E., 14, cloudy, like rain, temperature 76°; Wentworth, S.W., fine, temperature 71°; Deniliquin, S.W., 14, fine, hazy, temperature 81°; Eden, S.W., 14, cloudy, moderate sea, temperature 78°; Moruya, W., 28, gloomy, moderate sea, temperature 83°; Cape St. George, N., 20, cloudy, smooth sea, temperature 77°; Newcastle, N.E., fine, smooth sea, temperature 81°; Port Macquarie, N.E., fine, smooth sea, temperature 82°; Clarence River, S.W., cloudy, moderate sea, temperature 80°; Walgett, calm, fine, and hot, temperature 93°; Dubbo, W., 14, fine, temperature 89°; Goulburn, W.N.W., showery, temperature 76°.

Queensland.—Brisbane, S.E., 23, overcast, like rain, temperature 77°; Roma, S.W., fine and clear, temperature 87°.

HEIGHT OF RIVERS ABOVE SUMMER LEVEL.

Macintyre: At Mungindi, 18 feet. Barwon: At Mogil Mogil, 20 feet; at Walgett, 32 feet 2 inches. Namoi: At Walgett, 20 feet 8 inches. Culgoa: At Goodooga, 3 feet 8 inches. Darling: At Brewarrina, 17 feet 6 inches; at Bourke, 30 feet 10 inches; at Louth, 28 feet 6 inches; at Tilpa, 31 feet 3 inches; at Wilcannia, 31 feet 2 inches; at Menindie, 24 feet 8 inches; at Pooncarie, 21 feet 2 inches; at Wentworth, 10 feet 1 inch. Murrumbidgee: At Gundagai, 5 feet; at Wagga, 3 feet 6 inches; at Hay, 10 feet; at Balranald, 9 feet. Murray: At Albury, 3 feet; at Euston, 5 feet.

ASTRONOMICAL MEMORANDA FOR MARCH 14.

Sun rises at 6, sets at 6.19; Moon, 9.53 p.m., 10.12 a.m.; Mercury, 7.10 a.m., 6.44 p.m.; Venus, 7.51 a.m., 7.25 p.m; Mars, 6.44 a.m., 6.48 p.m.; Jupiter, 8.11 p.m., 9.21 a.m.; Saturn, 2.44 p.m., 12.38 a.m. Full moon, 10th; new moon, 25th.

High water at Fort Denison: 11.27 a.m., 11.50 p.m.

H. A. LENEHAN,
Acting Government Astronomer.

Stations.	W.T.	Mx	M'n	R'n.
Albury ..	b	80	52	0·10
Armidale	b	82	64	0·05
Balranald	b	101	60	0
Bathurst	b	[illegible]	74	0
Bendem'r	g	82	[illegible]	0
Bodalla ..	b	82	57	0
Bourke ..	b	88	67	0
Buncarra	c	86	64	0·11
C'md'n H.	c	85	72	1·00
C. St. Geo.	b	68	62	0
Carcoar ..	u	87	44	0·12
Casino ..	c	83	71	3·32
Cassilis ..	u	72	68	0
Clarence ..	c	83	73	0·88
C'nd'b'lu	b	91	13	0·21
Cooma ..	b	81	52	0·18
Coonab'n.	c	91	62	0
Cowra ..	g	92	60	0·08
Cudg'llico	b	78	58	0
Deniliq'n.	b	87	52	0
Dubbo ..	b	91	60	0·02
Eden	b	72	60	0
Euston ..	b	90	46	0
Forbes ..	b	[illegible]	56	0·20
Glen Inn's	c	93	61	0
Goulburn	g	74	56	0
Grafton ..	h	96	70	0·76
Gulgong ..	c	87	60	0
Gunned'h	b	89	69	0
Hay ..	b	80	52	0
Inverell ..	b	85	67	1·84
Kiandra ..	b	75	34	1·06
Lismore ..	c	88	76	0·75
Maitland ..	u	95	69	0·01
Marsdens.	b	79	61	0·02
Menindie.	b	69	58	0
Molong ..	b	84	80	0
M'r'g'r'll	b	77	60	0·13
Moree ..	u	[illegible]	71	0·10
Moruya ..	b	[illegible]	61	0
Mos. Vale	g	85	61	0
Mt. Hope	b	[illegible]	58	[illegible]
Mt. Victoria	[illegible]	[illegible]	[illegible]	0
Mudgee ..	g	91	60	0
M'r'mb'h	b	[illegible]	[illegible]	0·06
M'rr'r'ndi	o	[illegible]	[illegible]	0
Mu'sl'br'k	u	90	64	0·09
Narrabri	h	87	61	0
Newcastle	g	76	64	0·37
Orange ..	b	[illegible]	[illegible]	0
Picton ..	c	70	64	0
P. M'q'rie	c	83	70	2·88
P. St'ph'n	r	75	66	0·40
Queanbeyan	b	75	55	0·02
Quirindi	g	92	69	0
Singleton	g	80	71	0
SYDNEY ..	b	75	67	0·02
Tamw'rth	-	—	—	-
Taralga ..	g	79	51	0
Taree ..	r	84	72	1·54
T'nt'rfield	u	81	55	0·14
Wagga ..	b	82	47	0·07
Walcha ..	o	79	57	0
Walgett ..	b	92	71	0
Warrah ..	u	80	—	0
W'ntw'rth	b	85	49	0
W'll'ng'ng	b	74	66	0
Young ..	c	91	57	0·11

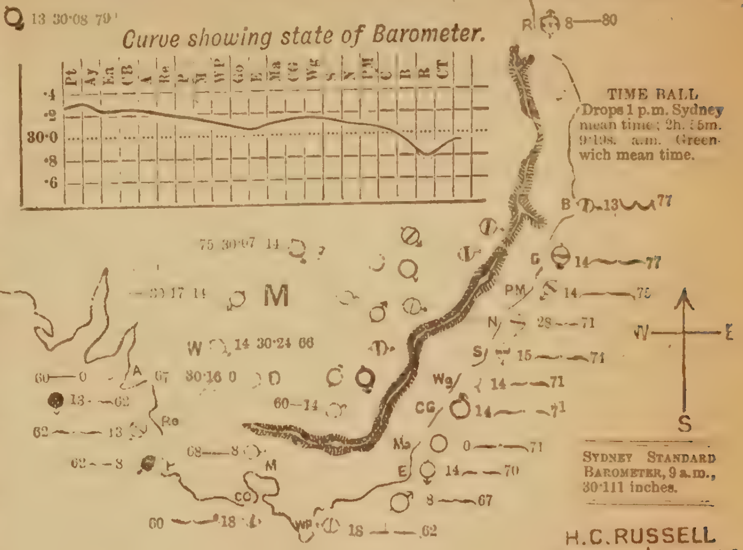
SYDNEY OBSERVATORY.

LATITUDE 33° 51′ 41″ S. LONGITUDE 10h. 4m. 50·81s. E.

MAGNETIC VARIATION, 9° 35′ 37″ E.

Average Annual rainfall for 29 years .... 49·489
Average for 29 years from Jan. 1 to March 14, 1887 .... 9·147
Total Rainfall from Jan. 1 to March 14, 1887 ..... 11·517
Barometers corrected to 32° Fah. and Mean Sea Level.

Fine, wind N. Cloudy, wind E. T. storm, wind S. Rain, wind W.
If it is CALM, the symbol is used without the arrow.
Smooth sea
Heavy sea.
Very heavy sea.



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In the list of stations the column headed W.T. gives the state of the weather at 9 a.m., b standing for blue sky; c, detached clouds; d, drizzling rain; f, fog; g, gloomy; h, hazy; m, misty; n, frosty; o, overcast; p, passing showers; r, rain; s, snow; t, thunder; u, threatening. The next column, M'x gives the maximum temperature for previous 24 hours. M'n the corresponding minimum temperature; r'n, the rain for the previous 24 hours. The symbols used in the map are explained on the margin. At each coast station the wind symbol is placed like a vane pointing to the direction from which the wind is coming. A clear circle with it means fine weather; a circle with bar, cloudy weather; and a black spot, raining. Next to this symbol are placed figures denoting the number of miles the wind is moving per hour; next, a symbol showing the state of the sea; and, lastly, figures denoting the shade temperature at 9 a.m. The barometer curve shows the state of barometers round the coast from Perth to Cooktown:—Pt, Perth; Ay, Albany; Ea, Eucla; CB, Cape Borda; A, Adelaide; Re, Robe; P, Portland; M, Melbourne; WP, Wilson's Promontory; Go, Gabo; E, Eden; Ma, Moruya; CG Jervis Bay; Wg, Wollongong; S, Sydney; N, Newcastle; PM, Port Macquarie; C, Clarence River; B, Brisbane; R, Rockhampton; Ct, Cooktown. Inland the state of barometer is given in figures at Albury, Deniliquin, Wentworth, Menindie, Bourke, and Alice Springs. The barometer curve enables one at a glance to trace the depressions, beginning with Western Australia, and passing along eastwards; northerly winds preceding them, and southerly following.

9 A.M. OBSERVATIONS.

Western Australia.—Generally more or less cloudy and unsettled, with light to fresh easterly winds, almost steady barometers, and smooth sea. Extremes of barometers and temperature: Albany, 30·26; Carnarvon, 29·90; Cossack, 88°; and Esperance Bay, 61°.

South Australia.—Generally fine and cool inland, cloudy, and in parts gloomy on and near the coast, with light S.E. to S.W. winds and calms, risen barometers, and moderate sea. Light rain has fallen on Mount Lofty Ranges and on parts of the coast, but not exceeding 0·07 inch anywhere. Extremes of barometers and temperature: On the coast generally, 30·23; Port Darwin, 29·84 and 86° (0·16 inch rainfall); M'Donnell Bay, 61°.

Victoria.—Cloudy on the coast, fine inland, showery at Portland, with light S. to W. winds, risen barometers, and moderate sea. Rainfall: Wilson's Promontory, 0·11; Portland, 0·08; Omeo, 0·04; and Cape Otway, 0·02 inches. Extremes of barometers and temperature: Cape Otway, 30·18 and 60°; Wilson's Promontory, 30·07; and Horsham, 73°.

Tasmania.—Generally fine but cloudy, with light S.E. to S.W. winds, risen barometers, and smooth sea. Extremes of barometers and temperature: Falmouth, 30·12; Hobart, 29·99; Circular Heads, 59°; Low Heads, 65°.

New Zealand.—Generally fine, with S.E. wind in extreme north, and N.W. winds to southward. Barometers: On North Island, 30·0; at Bluff, 29·9.

New South Wales.—Generally fine and cool; cloudy and threatening in N.E. parts, principally on and near the dividing range; raining steadily at Port Stephens and Taree; light N.E. to S.E. winds, risen barometers, and smooth to moderate sea, but heavy off Port Stephens; rain has fallen in the eastern division generally, heaviest in north parts. Casino reports 3·32 inches, Port Macquarie 2·88, Inverell 1·84, Taree 1·54, Kiandra 1·06, and Camden Haven 1·00 inches. Extremes of barometers and temperature: Wentworth, 30·24; Dubbo, 29·99; Clarence, 87°; and Cooma, 58°. For further particulars see map.

Queensland.—Cloudy and unsettled in S.E., with passing showers at Roma and Cape Moreton, light to fresh easterly winds, and rough sea; more or less cloudy and sultry in north parts, with light variable winds and calms, and smooth sea. Rainfall: Cape Moreton, 0·94; Brisbane, 0·62; Cooktown, 0·19; and Roma, 0·11 inches. Extremes of barometers and temperature: Cooktown, 29·95 and 92°; Rockhampton, 29·76; and Roma, 74°.

3 P.M. OBSERVATIONS.

New South Wales.—Menindie, S.W. 14, fine, clear, and cool, temperature 77°; Wentworth, S.W., 14, fine and warm, temperature 70°; Deniliquin, calm, fine, and clear, temperature 82°; Moruya, N.E., 28, fine, smooth sea, temperature 78°; Cape St. George, N.E., 14, fine, smooth sea, temperature 75°; Sydney, S., 12, overcast and gloomy, smooth sea, temperature 71°; Newcastle, S., 14, dull, smooth sea, temperature 73°; Port Macquarie, S.S.W., 28, fine, but cloudy, moderate sea, tmperature 85°; Dubbo, calm, overcast, temperature 75°.

Queensland.—Brisbane, E.N.E., 18, cloudy, temperature 81°.

HEIGHT OF RIVERS ABOVE SUMMER LEVEL.

Macintyre: At Mungindi, 19 feet. Barwon: At Mogil Mogil, 19 feet; at Walgett, 32 feet 8 inches. Namoi: At Walgett, 21 feet. Culgoa: At Goodooga, 3 feet 10 inches. Darling: At Brewarrina, 17 feet 6 inches; at Bourke, 30 feet 5 inches; at Louth, 28 feet 11 inches; at Tilpa, 31 feet 11 inches; at Wilcannia, 29 feet 8 inches; at Menindie, 24 feet 11 inches; at Pooncarie, 21 feet 4 inches; at Wentworth, 10 feet 3 inches. Murrumbidgee: At Gundagai, 4 feet 6 inches; at Wagga, 7 feet 3 inches; at Hay, 10 feet 3 inches; at Balranald, 10 feet 1 inch. Murray: At Albury, 3 feet 10 inches; at Euston, 4 feet 10 inches.

ASTRONOMICAL MEMORANDA FOR MARCH 15.

Sun rises at 6.1, sets at 6.17; Moon, 10.39 p.m., 11.15 a.m.; Mercury, 7.4 a.m., 6.39 p.m.; Venus, 7.53 a.m., 7.24 p.m.; Mars, 6.44 a.m., 6.46 p.m.; Jupiter, 8.7 p.m., 9.17 a.m.; Saturn, 2.40 p.m., 12.34 a.m. Full moon, 10th; new moon, 25th.

High water at Fort Denison: —— a.m., 12.12 p.m.

H. A. LENEHAN,
Acting Government Astronomer.

Stations.	W.T.	Mx	Mn	R'n
Albury ..	b	8.	53	0
Armidale	g	79	63	0
Balranald	b	102	55	0
Bathurst	c	82	63	0
[illegible]	n	8.	68	0.52
Bodalla ..	b	8.	.5	0
Bourke ..	c	95	73	0
Buncarra	c	86	69	0
C'md'n H.	r	80	73	0
C. St. Geo.	c	80	62	0
Cooma ..	u	7.	54	0·03
Casino ..	o	85	69	0·29
Cassilis	u	7.	67	0
Clarence	c	85	73	1·05
C'nd'bl'n	b	99	51	0
Cooma	d	87	5.	0
Coonab'n.	g	92	66	0
Cowra	b	93	68	0
Cud. llaco	b	92	56	0
Deniliq'n.	b	94	55	0
Dubbo ..	b	84	62	0·37
Eden	b	75	60	0
Euston ..	b	91	57	0
Forbes	c		67	0
Glen Inn's	b	72	65	0·14
Goulburn	g	72	58	0
Grafton ..	g	98	75	1·17
Gulgong .	c	75	60	0
Gunned'h	u	88	70	0·20
Hay . ..	c	86	52	0
Inverell ..	b	81	68	0
Kiandra. .	c	80	51	0
Lismore. .	—	—	—	-
Maitland.	u	79	68	0·15
Marsdens.	b	86	68	0
Menindie.	b	73	65	0
Molong ..	b	74	64	0
M r ng'r'll	c	81	65	0
Moree ..	r	89	72	0·02
Moruya ..	b	79	60	0
Moss Vale	r	71	58	0·45
Mt. Hope	b	89	70	0
M. Vict'ria	r	69	55	0·15
Mudgee ..	g	81	60	0·02
M'rr'mb'h	u	88	62	0
M'rr'r'udi	o	77	67	0·12
Mus'lbr'k	u	82	64	0
Narrabri	g	95	63	0
Newcastle	r	75	67	0·10
Orange ..	c	78	64	0
P. ton .	g	77	65	0
P. M'q'rie	g	84	70	0·11
P. St'ph'n	r	71	64	1·79
Q. beyan	b	74	60	0
Quirindi	o	89	70	0
Singleton	g	72	—	0·10
SYDNEY ..	o	76	65	0·85
Taralga ..	g	76	50	0·10
Taree ..	r	77	70	0·12
T'nt'rfield	u	72	65	0·07
Wagga ..	b	87	57	0
Walcha ..	o	80	62	0·03
Walgett ..	c	97	75	0
Warrah ..	u	84	—	0
W'ntw'rth	b	86	65	0
W'll'ng'ng	c	82	67	0
Yetman ..	g	—	—	0·05
Young ..	c	95	62	0

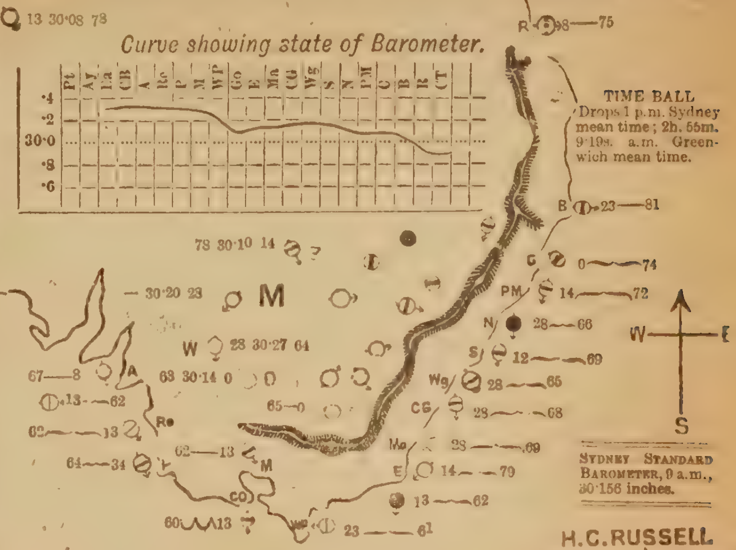
SYDNEY OBSERVATORY

LATITUDE 33° 51' 41" S. LONGITUDE 10h. 4m. 50·31s. E.

MAGNETIC VARIATION, 9° 35' 37" E.

Average Annual Rainfall for 28 years..............49·489
Average rainfall for 28 years from Jan. 1 to Feb. 28, 1887 .... 9·147
Total rainfall from Jan. 1 to March 15, 1887 .... 12·565

Barometers corrected to 32° Fah. and Mean Sea Level.



Fine, wind N. Cloudy, wind E. T'storm, wind S. Rain, wind W.
If it is CALM, the symbol is used without the arrow.
Smooth sea.
Heavy sea.
Very heavy sea.

TIME BALL
Drops 1 p.m. Sydney mean time; 2h. 55m. 9·19s. a.m. Greenwich mean time.

SYDNEY STANDARD BAROMETER, 9 a.m., 30·156 inches.

H. C. RUSSELL,
GOVERNMENT ASTRONOMER.

NOTES EXPLANATORY OF MAP.

In the list of stations the column headed W.T. gives the state of the weather at 9 a.m., b standing for blue sky; c, detached clouds; d, drizzling rain; f, fog; g, gloomy; h, hazy; m, misty; n, frosty; o, overcast; p, passing showers; r, rain; s, snow; t, thunder; u, threatening. The next column, M'x gives the maximum temperature for previous 24 hours. M'n the corresponding minimum temperature; r'n, the rain for the previous 24 hours. The symbols used in the map are explained on the margin. At each coast station the wind symbol is placed like a vane pointing to the direction from which the wind is coming. A clear circle with it means fine weather; a circle with bar, cloudy weather; and a black spot, raining. Next to this symbol are placed figures denoting the number of miles the wind is moving per hour; next, a symbol showing the state of the sea; and, lastly, figures denoting the shade temperature at 9 a.m. The barometer curve shows the state of barometers round the coast from Perth to Cooktown:—Pt, Perth; Ay, Albany; Ea, Eucla; CB, Cape Borda; A, Adelaide; Re, Robe; P, Portland; M, Melbourne; W P, Wilson's Promontory; Go, Gabo; E, Eden; Ma, Moruya; C G Jervis Bay; Wg, Wollongong; S, Sydney; N, Newcastle; P M, Port Macquarie; C, Clarence River; B, Brisbane; R, Rockhampton; Ct, Cooktown. Inland the state of barometer is given in figures at Albury, Deniliquin, Wentworth, Menindie, Bourke, and Alice Springs. The barometer curve enables one at a glance to trace the depressions, beginning with Western Australia, and passing along eastwards; northerly winds preceding them, and southerly following.

9 A.M. OBSERVATIONS.

South Australia.—Generally fine and cool, with scattered clouds on and near the coast, with light S. to S.E. winds, risen barometers, and moderate sea. Rainfall: Yam Creek, 0·25, and Port Darwin, 0·03 inches. Extremes of barometers and temperature: Cape Borda, 30·31; Port Darwin, 29·82; and 86°; M'Donnell Bay, 50°.

Victoria.—Generally cloudy and misty, principally on the coast, with light to fresh S. to S.E. winds, risen barometers, and moderate to rough sea. Rainfall: Wilson's Promontory, 0·02, and Portland, 0·01 inches. Extremes of barometers and temperature: Portland, 30·29 and 74°; Echuca, 30·18; and Ballarat, 56°.

Tasmania.—Generally fine, with clouds in places, light S. to S.E. winds, risen barometers, and smooth sea. Rainfall: 0·05 inch at Falmouth. Extremes of barometers and temperature: Falmouth, 30·28 and 58°; Hobart, 30·18 and 61°.

New Zealand.—Fine on North Island, with N.W. winds in south, and calm in north parts; gloomy, with S.W. wind, at Bluff. Barometers: In extreme north, 30·2; to southward, 29·9.

New South Wales.—Fine in west parts, cloudy and unsettled in the eastern division, with light rain falling at places on the coast and near the range; light to fresh N.E. to S.E. winds, risen barometers, and the sea smooth to moderate, but heavy off Port Stephens. Rain has fallen at scattered places, principally in north, and heaviest between the Manning and Clarence Rivers, where from one to one and three-quarter inches were recorded. Extremes of barometers and temperature: Wentworth, 30·27; Port Macquarie, 30·06; Bourke, 78°; and Mount Victoria, 57°. Extra stations: Hill End, rainfall 0·05 inch and threatening. For further particulars see map.

Queensland.—Generally threatening and gloomy in south parts, sultry, hot, and unsettled in north, with showery weather at Port Mackay; light E. to S.E. winds and calms, almost steady barometers, and smooth sea. Rainfall: 6·09 inches at Roma, and the surrounding country flooded, 0·30 at Mackay, 0·05 at Brisbane, and Townsville 0·04 inches. Extremes of barometers and temperature: Brisbane, 30·01; Roma, 29·87; Cooktown, 87°; and Rockhampton, 75°.

3 P.M. OBSERVATIONS.

Victoria.—Portland, S.E., 56, overcast, slight sea, temperature 62°; Cape Otway, S., 42, overcast, fine, moderating sea, temperature 63°; Melbourne, S., 28, fine and calm, temperature 66°; Cape Schank, S., 28, fine but cloudy, slight sea, temperature 66°; Wilson's Promontory, W.S.W., 42, squally, moderate sea, temperature 67°; Lakes' Entrance, S.W., 28, fine but cloudy, temperature 68°.

New South Wales.—Menindie, S., 28, fine, temperature 77°; Wentworth, S., 14, fine but cloudy, temperature 73°; Deniliquin, S., 14, fine, temperature 80°; Eden, E.S.E., 14, like rain, smooth sea, temperature 73°; Moruya, S.E., 28, thick misty rain, smooth sea, temperature 67°; Cape St. George, calm, cloudy, smooth sea, temperature 75°; Sydney, S.S.E., 16, light misty rain, smooth sea, temperature 64°; Newcastle, S., 14, raining, smooth sea, temperature 67°; Port Macquarie, S.S.W., 14, overcast and showery, smooth sea, temperature 79°; Clarence River, N.E., 14, fine, smooth sea, temperature 76°; Walgett, N.E., 14, showery, temperature 82°; Dubbo, E., 14, fine, temperature 78°; Goulburn, N.E., 14, dull, temperature 70°.

Queensland.—Brisbane, E.N.E., 56, temperature 73°; Roma, N.E., 28, cloudy, temperature 77°.

HEIGHT OF RIVERS ABOVE SUMMER LEVEL.

Macintyre: At Mungindi, 19 feet. Barwon: At Mogil Mogil, 18 feet 8 inches; at Walgett, 32 feet 4 inches. Namoi: At Walgett, 21 feet. Culgoa: At Goodooga, 3 feet 11 inches. Darling: At Brewarrina, 17 feet 7 inches; at Bourke, 30 feet 4 inches; at Louth, 29 feet 1 inch; at Tilpa, 32 feet 2 inches; at Wilcannia, 30 feet 4 inches; at Menindie, 25 feet; at Pooncarie, 21 feet 3 inches; at Wentworth, 10 feet 3 inches. Murrumbidgee: At Gundagai, 7 feet; at Wagga, 9 feet; at Hay, 10 feet; at Balranald, 10 feet. Murray: At Albury, 3 feet 10 inches; at Euston, 5 feet.

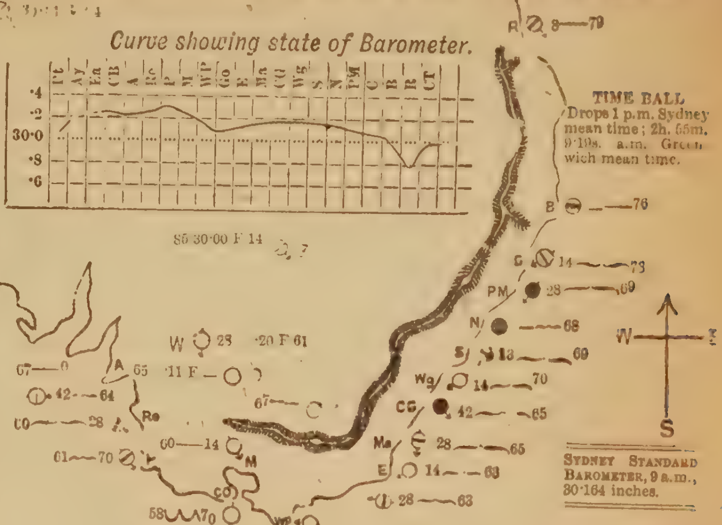
ASTRONOMICAL MEMORANDA FOR MARCH 16.

Sun rises at 6.1, sets at 6.16; Moon, 11.28 p.m., 12.15 p.m.; Mercury, 6.58 a.m., 6.33 p.m.; Venus, 7.55 a.m., 7.28 p.m.; Mars, 6.14 a.m., 6.41 p.m.; Jupiter, 8.3 p.m., 9.12 a.m.; Saturn, 2.36 p.m., 12.30 a.m. Full moon, 10th; new moon, 25th.

High water at Fort Denison: 12.36 a.m., 1 p.m.

H. A. LENEHAN,
Acting Government Astronomer.

Stations.	W.T.	M'x.	M'n.	R'n.
Albury ..	b	88	63	0
Armidale	g	79	62	0·41
Balranald	b	76	60	0
Bathurst	c	72	57	0·02
Bendem'r	r	85	65	1·61
Bo'ialla ..	g	78	62	0
Bourke	c	91	71	0·06
Bundarra	c	82	68	0·05
Cund'n H.	c	76	73	0·50
C. St. Geo.	r	82	63	0·03
Carcoar ..	b	73	48	0
Casino ..	o	85	71	0·18
Cassilis ..	o	72	65	0
Clarence .	c	84	73	0·44
Cnd'b'lin	b	91	53	0
Cooma ..	b	80	56	0
Coonab'n.	g	88	62	0·83
Cowra	b	94	68	0
Cudg'llico	b	96	61	0
Deniliq'n.	b	91	53	0·03
Dubbo ..	b	89	64	0
Eden	b	76	61	0
Euston ..	b	90	52	0
Forbes	b		64	0
Glen Inn's	g	68	62	0·08
Goulburn	g	71	53	0



H. C. RUSSELL
GOVERNMENT ASTRONOMER

Stations.	W.T.	M'x.	M'n.	R'n.
Grafton	g	94	71	0·58
Gulgong .	u	75	55	0·35
Gunned'h	c	84	67	1·52
Hay . ..	b	82	52	0
Inverell ..	c	77	69	0·16
Kiandra ..	b	74	51	0·41
Lismore. .	u	84	75	0
Maitland .	r	74	65	0·10
Marsdens.	b	87	66	0
Menindie.	b	69	62	0
Molong ..	o	82	60	2·10
M'r'ng'r'll	b	81	63	-
Moree ..	g	76	68	0·53
Moruya ..	g	75	65	0·06
Moss Vale	u	54	58	0·43
Mt. Hope	b	93	69	0
M. Vict'ria	r	61	52	0·09
Mudgee ..	r	80	57	0·08
M'rr'mb'h	b	80	60	0
M'rr'r'udi	o	82	57	0
Mus'lbr'k	u	75	62	0·14
Narrabri	g	85	64	0
Newcastle	r	70	66	0·35
Orange ..	g	71	57	0·80
Picton .	c	69	60	0·17
P. M'q'rie	r	79	66	6·44
P. St'ph'n	r	71	62	1·05
Q'nbeyan	h	72	59	0
Quirindi	u	83	67	0·04
Singleton	d	73	68	0·20
SYDNEY ..	g	70	64	0·09
Taralga ..	c	79	57	0·10
Taree ..	u	75	68	2·20
T'nt'rfield	u	74	62	0·31
Wagga ..	b	89	59	0
Walcha ..	u	76	56	1·50
Walgett ..	c	82	72	0
Warrah ..	h	77	—	0·05
W'ntw'rth	b	85	56	0
W'll'ng'ng	b	71	63	0·21
Yetman ..	u	—	—	0·18
Young ..	b	88	57	0

SYDNEY OBSERVATORY.

LATITUDE 33° 51' 41" S. LONGITUDE 10h. 4m. 50·81s. E.
MAGNETIC VARIATION, 9° 35' 37" E.

Average Annual Rainfall for 28 years.............. 49·489
Average for 29 years from Jan. 1 to Feb. 28, 1887 .... 9·147
Total Rainfall from Jan. 1. to March 16, 1887....... 12·365
Barometers corrected to 32° Fah. and Mean Sea Level.

Fine, wind N. Clouds, wind E. T. storm, wind S. Rain, wind W.
If it is CALM, the symbol is used without the arrow.
Smooth sea.
Heavy sea.
Very heavy sea.

NOTES EXPLANATORY OF MAP.

In the list of stations the column headed W.T. gives the state of the weather at 9 a.m., b standing for blue sky; c, detached clouds; d, drizzling rain; f, fog; g, gloomy; h, hazy; m, misty; n, frosty; o, overcast; p, passing showers; r, rain; s, snow; t, thunder; u, threatening. The next column, M'x gives the maximum temperature for previous 24 hours. M'n the corresponding minimum temperature; R'n, the rain for the previous 24 hours. The symbols used in the map are explained on the margin. At each coast station the wind symbol is placed like a vane pointing to the direction from which the wind is coming. A clear circle with it means fine weather; a circle with bar, cloudy weather; and a black spot, raining. Next to this symbol are placed figures denoting the number of miles the wind is moving per hour; next, a symbol showing the state of the sea; and, lastly, figures denoting the shade temperature at 9 a.m. The barometer curve shows the state of barometers round the coast from Perth to Cooktown:—Pt, Perth; Ay, Albany; Ea, Eucla; CB, Cape Borda; A, Adelaide; Re, Robe; P, Portland; M, Melbourne; WP, Wilson's Promontory; Go, Gabo; E, Eden; Ma, Moruya; CG Jervis Bay; Wg, Wollongong; S, Sydney; N, Newcastle; PM, Port Macquarie; C, Clarence River; B, Brisbane; R, Rockhampton; Ct, Cooktown. Inland the state of barometer is given in figures at Albury, Deniliquin, Wentworth, Menindie, Bourke, and Alice Springs. The barometer curve enables one at a glance to trace the depressions, beginning with Western Australia, and passing along eastwards; northerly winds preceding them, and southerly following.

West Australia.—Fine throughout, with S.W., N., and N.W. winds. Sea generally smooth, moderate at Esperance Bay, and dead calm at Cossack.

South Australia.—Generally fine and cool, scattered clouds at few stations on coast, and north of the Peak south-easterly winds. Rain, with light winds, has fallen to the north. Port Darwin, 0·24; Yam Creek, 0·55, from N.W., &c.; Tennant's Creek, 0·15, from S.E.

Victoria.—Generally fine, but cloudy, E. and S.E. winds, steady barometers, smooth sea at Portland, rough at Cape Otway, and slight at Wilson's Promontory.

Tasmania.—Fine generally, with S.E. wind and cloudy sky to the north, S. wind to the south.

New Zealand. Russell, barometer, 30·0, calm, gloomy; Wellington, 29·7, N.W., fine; Bluff, 29·7, N.W., overcast, passing showers.

New South Wales.—Cloudy generally on east of range, raining and showery at Bendemeer, Cape George, Marsdens, Mount Victoria, Mudgee, Newcastle, Port Macquarie, Port Stephens, Singleton, and Hill End. Fine and clear to W. and S.W. Barometers steady on east coast. Wind generally S.E. to N.E. Sea moderate to smooth. Extra Stations: Coonamble, calm, dull, rainfall 0·20; Hill End, S.W., raining steadily; Wilcannia, calm, fine, clear; Cudgellico, fine, hot, maximum 94, minimum 66; Brewarrina, rainfall 0·13

Queensland.—Cloudy throughout colony, wind generally S.E., showery at Mackay, threatening at Normanton, and Thargomindah. Rainfall: Brisbane 0·01, Mackay 0·63, Rockhampton 1·02, Cooktown 0·08, Normanton 0·11, Roma 0·29. Smooth and moderate sea on coast.

3 P.M. OBSERVATIONS.

New South Wales.—Menindie, S.W., 14, fine, cool, temperature 75°; Wentworth, S., 14, fine, clear, temperature 70°; Deniliquin, calm, fine, temperature 80°; Eden, S.E., 14, cloudy, light E. sea, temperature 69°; Moruya, S., 28, cloudy, smooth sea, temperature 67°; Cape St. George, S.S.E., 14, showery, moderate sea, temperature 69°; Sydney, S.E., fresh, cloudy, smooth sea, temperature 71°; Newcastle, S.S.E., dull, showery, no sea, temperature 68°; Port Macquarie, S.S.W., 14, cloudy, dull, smooth sea, temperature 75°; Clarence River, S., fresh, raining, moderate sea, temperature 73°; Walgett, N.E., like rain, temperature 78°; Dubbo, E., 14, cloudy, temperature 76°; Goulburn, E.N.E., dull, temperature 68°.

Victoria.—Portland, S.S.W., 28, fine, slight sea, temperature 65°; Cape Otway, S.E., 42, fine, moderate sea, temperature 65°; Melbourne, S.S.W., 28, fine, temperature 65°; Cape Schank, S., 28, fine but cloudy, slight sea, temperature 65°; Wilson's Promontory, S.W., 14, fine but cloudy, slight sea, temperature 67°; Lakes' Entrance, S.E., 28, fine but cloudy, temperature 65°.

Queensland.—Brisbane, calm, gloomy, temperature 73°; Rockhampton, E.N.E., fine, temperature 82°; Townsville, S.E., temperature 85°; Cape Moreton, E.S.E., fine, temperature 80; Roma, E.N.E., cloudy, temperature 72°.

HEIGHT OF RIVERS ABOVE SUMMER LEVEL.

Macintyre: At Mungindi, 20 feet. Barwon: At Mogil Mogil, 19 feet; at Walgett, 31 feet 10 inches. Namoi: At Walgett, 20 feet 10 inches. Culgoa: At Goodooga, 4 feet. Darling: At Brewarrina, 17 feet 9 inches; at Bourke, 30 feet 2 inches; at Louth, 29 feet 3 inches; at Tilpa, 32 feet 5 inches; at Wilcannia, 30 feet 4 inches; at Menindie, 25 feet; at Pooncarie, 21 feet 6 inches; at Wentworth, 10 feet 2 inches. Murrumbidgee: At Gundagai, 6 feet 4 inches; at Wagga, 9 feet 9 inches; at Hay, 8 feet 5 inches; at Balranald, 11 feet 3 inches. Murray: At Albury, 3 feet 10 inches; at Euston, 4 feet 9 inches.

ASTRONOMICAL MEMORANDA FOR MARCH 17.

Sun rises at 6.2, sets at 6.14; Moon, sets at 1.12 p.m.; Mercury, 6.51 a.m., 6.28 p.m.; Venus, 7.57 a.m., 7.22 p.m; Mars, 6.44 a.m., 6.42 p.m.; Jupiter, 7.59 p.m., 9.8 a.m.; Saturn, 2.32 p.m., 12.26 a.m. Full moon, 10th; new moon, 25th.

High water at Fort Denison: 1.30 a.m., 1.59 p.m.

H. A. LENEHAN,
Acting Government Astronomer.

Stations.	W.T.	M'x	M'n	R'n
[illegible]				0
Armidale	[illegible]			[illegible]
Balranald	b	91	59	0
Bathurst	b	75	55	0
Bendem'n	b	[illegible]	56	0·02
Bod'lla	b	72	51	0
Bourke	c	82	69	0
Buncarra	b	79	65	0
C'md'n H.	c	82	66	0
C. St. Geo.	b	70	58	0
Carcoar	b	73	48	0
Casino	c	82	65	0·26
Cassilis	o	70	64	0
Clarence	g	83	71	0·73
C'nd'b'lin	b	86	51	0
Cooma	b	84	49	0
Coonab'n.	g	69	62	0·02
Cowra	b	85	65	0
Cudg'llico	b	86	68	0
Deniliq'n.	b	96	59	0
Dubbo	b	80	65	0
Eden	b	75	59	0
Euston	b	96	58	0
Forbes	b	[illegible]	61	0
Glen Inn's	b	72	57	0
Goulburn	b	73	51	0
Grafton	b	91	68	0·12
Gulgong	c	79	55	0
Gunned'h	b	83	65	0
Hay	b	92	52	0
Inverell	c	79	63	0·30
Kiandra	g	73	42	0
Lismore	r	79	70	0·82
Maitland	b	75	62	0·35
Marsdens	b	86	67	0
Menindie	b	77	66	0
Molong	b	76	56	0
M'ring'r'll	b	80	62	0
Moree	u	80	67	0·18
Moruya	b	72	60	0
Moss Vale	b	66	54	0·02
Mt. Hope	u	82	66	-
M. Vict'ria	u	63	51	0
Mudgee	g	75	60	0
M'rr'mb'h	b	84	58	0
M'rr'r'ndi	b	71	62	0
Mus'lbr'k	b	74	60	0·07
Narrabri	b	83	66	0·07
Newcastle	b	77	66	0·16
Orange	h	73	58	0
Paterson	b	75	60	0·15
P. M'q'rie	g	74	63	0·14
P. St'ph'n	g	73	58	0·11
Quirindi	b	73	62	0
Quirindi	b	81	63	0
Singleton	b	73	66	0·45
Sydney	c	74	64	0·02
Taralga	b	73	50	0·20
Taree	b	75	60	0·03
T'nt'rfield	u	72	59	0·04
Wagga	b	89	55	0
Walcha	b	65	50	0·02
Walgett	b	85	70	0
Warrah	b	74	---	0
W'ntw'rth	b	88	60	0
W'll'ng'ng	h	71	61	0
Yetman	o	—	—	0·30
Young	b	89	55	0

SYDNEY OBSERVATORY.

[illegible] 33° 51' 41" S., Longitude 10h. 4m. 50·8s. E.

Magnetic Variation, 9° 35' 37" E.

Average Annual Rainfall for 28 years......................49·489

Average for 29 years from Jan. 1 to Feb. 28, 1857 .... 9·147

[illegible] .... 12·467

Barometers corrected to 32° Fah. and Mean Sea Level.

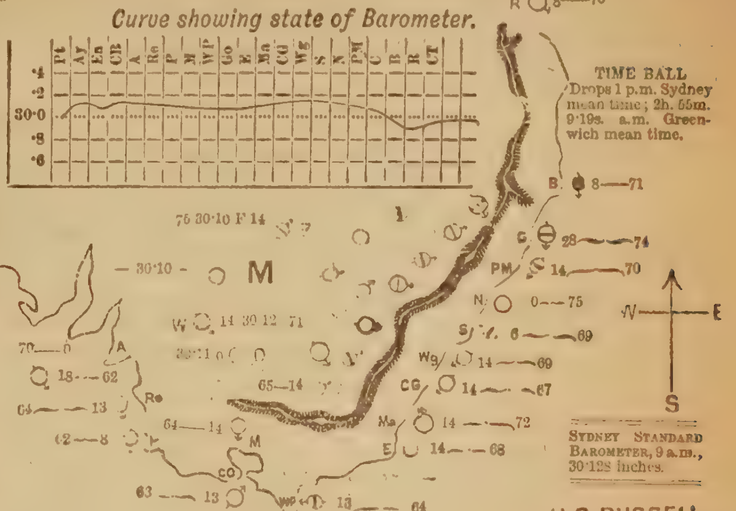
[illegible] Fine. [illegible] Cloudy, wind [illegible] wind E. [illegible] Storm, [illegible] Rain, wind S. [illegible] wind W.

If it is CALM, the symbol is used without the arrow.

[illegible] Smooth sea.

Heavy sea.

Very heavy sea.



H. C. RUSSELL,
GOVERNMENT ASTRONOMER.

NOTES EXPLANATORY OF MAP.

In the list of stations the column headed W.T. gives the state of the weather at 9 a.m., b standing for blue sky; c, detached clouds; d, drizzling rain; f, fog; g, gloomy; h, hazy; m, misty; n, frosty; o, overcast; p, passing showers; r, rain; s, snow; t, thunder; u, threatening. The next column, M'x gives the maximum temperature for previous 24 hours. M'n the corresponding minimum temperature; R'n, the rain for the previous 24 hours. The symbols used in the map are explained on the margin. At each coast station the wind symbol is placed like a vane pointing to the direction from which the wind is coming. A clear circle with it means fine weather; a circle with bar, cloudy weather; and a black spot, raining. Next to this symbol are placed figures denoting the number of miles the wind is moving per hour; next, a symbol showing the state of the sea; and, lastly, figures denoting the shade temperature at 9 a.m. The barometer curve shows the state of barometers round the coast from Perth to Cooktown:—Pt, Perth; Ay, Albany; Ea, Eucla; B, Cape Borda; A, Adelaide; Re, Robe; P, Portland; M, Melbourne; W P, Wilson's Promontory; Go, Gabo; E, Eden; Ma, Moruya; C G Jervis Bay; Wg, Wollongong; S, Sydney; N, Newcastle; P M, Port Macquarie; C, Clarence River; B, Brisbane; R, Rockhampton; Ct, Cooktown. Inland the state of barometer is given in figures at Albury, Deniliquin, Wentworth, Menindie, Bourke, and Alice Springs. The barometer curve enables one at a glance to trace the depressions, beginning with Western Australia, and passing along eastwards; northerly winds preceding them, and southerly following.

Western Australia.—Generally fine and warm, with clouds in places of S.W. parts, light S.E. to S.W. winds, and risen barometers in north-west; light easterly winds and fallen barometers on the south coast, sea smooth. Rainfall: 0·03 inch at Esperance Bay. Extremes of barometers and temperature: Albany, 30·15; Cossack, 29·86 and 81°; Esperance Bay, 66°.

South Australia.—Generally fine, cool, and pleasant, with scattered clouds north of Port Augusta, light S.E. winds and calms, fallen barometers, and smooth sea. Rainfall: Yam Creek, 0·33; Ports Darwin and Lincoln, 0·03. Hazy and misty on the coast. Extremes of barometers and temperature: Cape Borda, 30·14; Port Darwin, 29·82 and 84°; M'Donnell Bay, 62°.

Victoria.—Generally fine and cool, with light variable winds, fallen barometers, and smooth sea. Extremes of barometers and temperature: Cape Otway, 30·07 and 62°; Lakes Entrance, 30·00 and Yarrawonga, 77°.

Tasmania.—Generally fine, but cloudy, with light variable winds and calms, fallen barometers, and smooth to moderate sea. Extremes of barometers and temperature: Falmouth, 30·10; Southport, 29·9[illegible] and 57°; and Circular Head, 65°.

New Zealand.—Generally fine, with fresh to strong S.W. winds and rough sea. Rainfall: Wellington, 0·20 inch. Barometers: In extreme north and south, 30·0; at Wellington, 29·8.

New South Wales.—Generally fine and cool, with clouds at places on and near the coast and range in north parts, and light rain falling at Lismore; light N.E. to S.E. winds and calms, steady barometers, and smooth to moderate sea. Rain has fallen in N.E. parts, heaviest on the coast. Port Macquarie reports: Strong fresh caused by the heavy rains yesterday is now running out of river. Extremes of barometers and temperature: Wollongong and Sydney, 30·13; Eden, 30·03; Hay, 76°; and Cooma, 52°. For further particulars see map.

Queensland.—Generally overcast and gloomy, with more or less heavy rains falling at Brisbane, Port Mackay, and Townsville; light N.E. to S.E. winds, fallen barometers, and smooth sea. Rainfall: Port Mackay, 3·85; Townsville, 0·12; Brisbane, 0·30; and Roma, 0·01 inches. Extremes of barometers and temperature: Cooktown, 29·96 and 91°; Rockhampton, 29·82; and Cape Moreton, 71°.

3 P.M. OBSERVATIONS.

Victoria.—Portland, S., 18, fine, but cloudy, smooth sea, temperature 64°; Cape Schanck, S.S.W., 13, fine, but cloudy smooth sea, temperature 66°; Melbourne, S., 18, fine, temperature 66°; Wilson's Promontory, W., 23, fine and squally, smooth sea, temperature 64°; Lakes Entrance, S.W., 13, fine, temperature 75°.

New South Wales.—Menindie, calm, dull, like rain, temperature 81°; Wentworth, S.E., 14, cloudy and dull, temperature 78°; Deniliquin, calm, fine and warm, temperature 84°; Moruya, N.E., 28, fine, smooth sea, temperature 73°; Cape St. George, N., 28, fine, smooth sea, temperature 72°; Sydney, E.N.E., 14, fine and hazy, smooth sea, temperature 75°; Newcastle, S.E., 14, fine, smooth sea, temperature 73°; Port Macquarie, E., 28, unsettled, smooth sea, temperature 79°; Clarence River, S., 14, showery, moderate sea, temperature 74°; Dubbo, N.E., 14, fine but cloudy, temperature 78°; Goulburn, E., 14, fine, temperature 70°.

Queensland.—Brisbane, S., 13, light rain, temperature 74°; Cape Moreton, E.S.E., 34, showery, temperature 72; Rockhampton, E., fine, temperature 82°; Townsville, S.E., 13, unsettled, temperature 82°; Normanton, calm, cloudy, temperature 87°.

HEIGHT OF RIVERS ABOVE SUMMER LEVEL.

Macintyre: At Mungindi, 20 feet. Barwon: At Mogil Mogil, 20 feet; at Walgett, 31 feet 6 inches. Namoi: At Walgett, 20 feet 6 inches. Culgoa: At Goodooga, 4 feet 2 inches. Darling: At Brewarrina, 17 feet 11 inches; at Bourke, 29 feet 11 inches; at Louth, 29 feet 3 inches; at Tilpa, 32 feet 8 inches; at Wilcannia, 30 feet 6 inches; at Menindie, 25 feet 2 inches; at Pooncarie, 21 feet 6 inches; at Wentworth, 10 feet 3 inches. Murrumbidgee: At Gundagai, 5 feet 3 inches; at Wagga, 7 feet 11 inches; at Hay, 8 feet; at Balranald, 11 feet 3 inches. Murray: At Albury, 3 feet 10 inches; at Euston, 4 feet 8 inches.

ASTRONOMICAL MEMORANDA FOR MARCH 18.

Sun rises at 6.3, sets at 6.13; Moon, rises at 12.19 a.m., sets at 2.5 p.m.; Mercury, 6.45 a.m., 6.22 p.m.; Venus, 7.59 a.m., 7.22 p.m; Mars, 6.43 a.m., 6.40 p.m.; Jupiter, 7.55 p.m., 9.3 a.m.; Saturn, 2.28 p.m., 12.22 a.m. Full moon, 10th; new moon, 25th.

High water at Fort Denison: 2.36 a.m., 3.12 p.m.

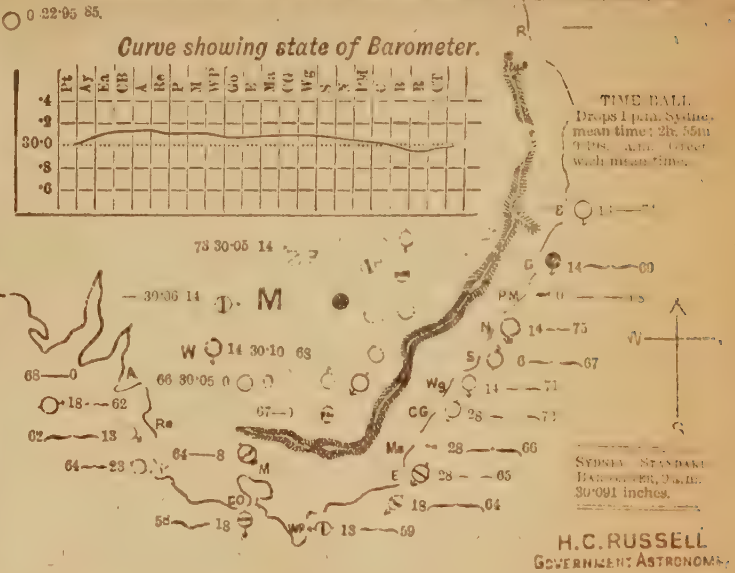
H. A. LENEHAN,
Acting Government Astronomer.

Stations.	W.T.	Mx	Mn	Rn.
Albury ..	g	87	64	0
Armidale	b	71	58	0
Balranald	g	107	58	0
Bathurst	b	78	51	0
Bendem'r	b	77	53	0
Bodalla ..	g	81	61	0
Bourke ..	c	89	71	0·01
Bungarra	b	82	56	0
C'md'n H.	c	78	64	0
C. St. Geo.	b	75	61	0
Carcoar ..	b	75	46	0
Casino ..	c	81	61	0·03
Cassilis ..	b	75	60	0
Clarence .	r	81	68	0·08
C'nd'b'lin	r	86	54	0·03
Cooma ..	c	87	57	0
Coonab'n.	b	88	66	0
Cowra ..	b	90	62	0
Cudg'llico	c	89	69	0
Deniliq'n.	b	98	56	0
Dubbo ..	b	87	57	0
Eden	g	76	63	0
Euston ..	b	101	63	0
Forbes ..	g	—	63	0
Glen Inn's	b	80	51	0
Goulburn	g	84	51	0
Grafton ..	b	89	65	0
Gulgong .	b	72	53	0
Gunned'h	b	84	65	0
Hay	b	91	64	0
Inverell ..	b	78	64	0
Kiandra ..	g	75	45	0
Lismore .	r	77	68	0·08
Maitland .	b	81	59	0
Marsdens.	b	87	76	0
Menindie.	g	76	71	0
Molong ..	b	79	54	0
M'r'ng'r'll	b	82	64	0
Moree ..	b	90	64	0·05
Moruya ..	g	80	64	0
Moss Vale	b	69	56	0
Mt. Hope	r	83	65	2·25
M. Vict'ria	b	69	48	0
Mudgee ..	h	78	53	0
M'rr'mb'h	g	88	60	0
M'rr'rudi	f	75	58	0
Mus'lbr'k	b	82	53	0
Narrabri	c	87	67	0
Newcastle	b	78	65	0
Orange ..	b	71	55	0
Picton ..	b	77	53	0
P. M'q'rie	g	80	61	0
P. St'ph'n	b	75	56	0
Q'nbeyan	b	74	62	0
Quirindi	b	81	62	0
Singleton	b	79	61	0
SYDNEY ..	b	76	61	0
Taralga ..	u	78	57	0
Taree ..	g	82	67	0·01
T'nt'rfield	c	73	54	0
Wagga ..	b	89	58	0
Walcha ..	b	67	50	0
Walgett ..	g	92	69	0
Warrah ..	b	82	—	0
W'ntw'rth	b	93	65	0
W'll'ng'ng	b	81	62	0
Yetman ..	-	—	—	-
Young ..	h	96	57	0

SYDNEY OBSERVATORY.

LATITUDE 33° 51' 41" S. LONGITUDE 10h. 4m. 50·84s. E.
MAGNETIC VARIATION, 9° 35' 37" E.

Average Annual Rainfall for 28 years .... 49·480
Average for 29 years from Jan. 1 to Feb. 28, 1887 .... 9·147
Total Rainfall from Jan. 1, to March 18, 1887 .... 12·48
Barometers corrected to 32° Fah. and Mean Sea Level



Fine, wind N. Cloudy, wind F...
...
If it is calm the symbol is used without the arrow.
— Smooth sea.
~~~ Heavy sea.
~~~ Very heavy sea.

TIME BALL.
Drops 1 p.m. Sydney mean time; 2h. 55m ... a.m. Greenwich mean time.

SYDNEY STANDARD BAROMETER, 9 a.m. 30·091 inches.

H. C. RUSSELL,
GOVERNMENT ASTRONOMER.

NOTES EXPLANATORY OF MAP.

In the list of stations the column headed W.T. gives the state of the weather at 9 a.m., b standing for blue sky; c, detached clouds; d, drizzling rain; f, fog; g, gloomy; h, hazy; m, misty; n, frosty; o, overcast; p, passing showers; r, rain; s, snow; t, thunder; u, threatening. The next column, M'x gives the maximum temperature for previous 24 hours. M'n the corresponding minimum temperature; R'n, the rain for the previous 24 hours. The symbols used in the map are explained on the margin. At each coast station the wind symbol is placed like a vane pointing to the direction from which the wind is coming. A clear circle with it means fine weather; a circle with bar, cloudy weather; and a black spot, raining. Next to this symbol are placed figures denoting the number of miles the wind is moving per hour; next, a symbol showing the state of the sea; and, lastly, figures denoting the shade temperature at 9 a.m. The barometer curve shows the state of barometers round the coast from Perth to Cooktown:—Pt, Perth; Ay, Albany; Ea, Eucla; CB, Cape Borda; A, Adelaide; Re, Robe; P, Portland; M, Melbourne; W P, Wilson's Promontory; Go Gabo; E, Eden; Ma, Moruya; C G Jervis Bay; Wg, Wollongong; S, Sydney; N, Newcastle; P M, Port Macquarie; C, Clarence River; B, Brisbane; R, Rockhampton; Ct, Cooktown. Inland the state of barometer is given in figures at Albury, Deniliquin, Wentworth, Menindie, Bourke, and Alice Springs. The barometer curve enables one at a glance to trace the depressions, beginning with Western Australia, and passing along eastwards; northerly winds preceding them, and southerly following.

9 A.M. OBSERVATIONS.

Western Australia.—Fine, with S.E. to S.W. winds along the west coast, misty rain at Albany, and dense fog at Esperance Bay, with light westerly winds and smooth sea. Extremes of barometers and temperature: Esperance Bay, 30·07 and 60°; Carnarvon, 29·84 and 81°.

South Australia.—Generally fine and pleasant, with scattered clouds on the ranges and on parts of the coast, light S. to S.E. winds, risen barometers, and moderate sea. Extremes of barometers and temperature: M'Donnell Bay, 30·15 and 61°; Port Darwin, 29·80 and 86°.

Victoria.—Generally fine, with clouds in places, light S.E. to S.W. winds, risen barometers, and smooth sea. Foggy at Omeo. 0·11 inch rain fallen at Yarrowanga. Extremes of barometers and temperature: Cape Otway, 30·20; Hamilton, 30·08; Horsham, 71°; and Omeo, 58°.

Tasmania.—Generally fine, with light S.E. to S.W. winds and calms, risen barometers, and smooth sea. Extremes of barometers and temperature: Southport, 30·15 and 57°; Falmouth, 30·13; and Hobart, 59°.

New Zealand.—Generally fine; in extreme north calm, fresh N.W. winds to southward, and rough sea on the west coast. Barometers: Russell, 30·2; Wellington, 29·9; and Bluff, 29·7.

New South Wales.—Generally more or less cloudy and unsettled, with light N.E. to S.E. winds and calms, fallen barometers, and smooth to moderate sea; raining on the Clarence and in parts of the districts between the Darling and Lachlan Rivers, from Condobolin to Mount Hope and Wilcannia; at Mount Hope the rainfall measured 2·25 inches at 9 a.m., and was then falling steadily. Extremes of barometers and temperature: Wentworth, 30·10; Port Macquarie, 30·2; Mudgee, 79°; and Cooma, 58°. Extra station: Wilcannia, rainfall 0·49 inch, and still raining. For further particulars see map.

Queensland.—Cloudy and unsettled generally, with rain falling in north coast districts, light S. to E. winds, fallen barometers, and moderate sea. Rainfall: Cape Moreton, 2·22; Mackay, 1·05; Thargomindah, 0·94; Cooktown, 0·19; and Brisbane, 0·06 inches. Extremes of barometers and temperature: Cooktown, 30·00 and 91°; Normanton, 29·88; and Cape Moreton, 72°.

3 P.M. OBSERVATIONS.

Victoria.—Portland, S.E., 34, fine, smooth sea, temperature 65°; Cape Otway, S.S.E., 23, fine, smooth sea, temperature 64°; Melbourne, S.W., 18, fine, temperature 67°; Cape Schanck, S., 1", fine, temperature 64°; Wilson's Promontory, S.W., 13, fine, smooth sea, temperature 67°; Lakes Entrance, S.E., 13, cloudy, temperature 68°.

New South Wales.—Menindie, E., 28, overcast and threatening, temperature 77°; Wentworth, S.E., 14, fine but cloudy, temperature 78°; Deniliquin, calm, fine, temperature 83°; Moruya, S., 28, overcast and gloomy, smooth sea, temperature 70°; Cape St. George, S., 14, cloudy, smooth sea, temperature 75°; Sydney, S.S.E., 15, cloudy and dull, smooth sea, temperature 73°; Newcastle, S., 14, dull, smooth sea, temperature 73°; Port Macquarie, S., 28, fine, smooth sea, temperature 79°; Clarence River, S., 14, showery, moderate sea, temperature 77°; Dubbo, calm, fine, but cloudy, temperature 77°; Goulburn, S.E., 14, dull, temperature 71°.

Queensland.—Brisbane, E.N.E., 18, cloudy, temperature 78°; Rockhampton, E., fine, temperature 83°; Townsville, S.E., unsettled, temperature 77°; Cape Moreton, E., 23, cloudy, temperature 78°; Normanton, N.W., showery, and thundering, temperature 96°; Roma, N.E., 8, fine, temperature 82°; Cooktown, S.E., 8, fine and clear, smooth sea, temperature 80°.

HEIGHT OF RIVERS ABOVE SUMMER LEVEL.

Gwydir: At Yetman, 4 feet. Macintyre: At Mungindi, 19 feet 6 inches. Barwon: At Mogil Mogil, 20 feet 4 inches; at Walgett, 30 feet 4 inches. Namoi: At Walgett, 19 feet 8 inches. Culgoa: At Goodooga, 4 feet 5 inches. Darling: At Brewarrina, 18 feet 8 inches; at Bourke, 29 feet 8 inches; at Louth, 29 feet 3 inches; at Tilpa, 32 feet 11 inches; at Wilcannia, 30 feet 8 inches; at Menindie, 25 feet 3 inches; at Pooncarie, 21 feet 6 inches; at Wentworth, 10 feet. Murrumbidgee: At Gundagai, 4 feet 6 inches; at Wagga, 6 feet 6 inches; at Hay, 7 feet; at Balranald, 11 feet 11 inches. Murray: At Albury, 3 feet 10 inches; at Euston, 5 feet 6 inches.

ASTRONOMICAL MEMORANDA FOR MARCH 19.

Sun rises at 6.3, sets at 6.12; Moon, rises at 1.12 a.m., sets at 2.52 p.m.; Mercury, 6.39 a.m., 6.17 p.m.; Venus, 8.1 a.m., 7.21 p.m.; Mars, 6.43 a.m., 6.38 p.m.; Jupiter, 7.51 p.m., 8.59 a.m.; Saturn, 2.24 p.m., 12.18 a.m. Full moon, 10th; new moon, 25th.

High water at Fort Denison, March 19: 3.49 a.m., 4.26 p.m.

H. A. LENEHAN,
Acting Government Astronomer.

Stations	W.T.	M'x	M'n	R'n.
Albury	[illegible]	86	61	0·04
Armidale	[illegible]	[illegible]	[illegible]	[illegible]
Balranald	[illegible]	104	51	0
Bathurst	n	7[illegible]	[illegible]	0
Bendemeer	b	8[illegible]	6[illegible]	0
Bodalla	o	73	5[illegible]	0·02
Bourke	r	75	66	2·70
[illegible]	u	[illegible]	[illegible]	0
C'nd'n R.	c	78	6[illegible]	0·25
C. St. Geo.	c	81	63	0
Carcoar	c	73	41	0
Casino	b	81	64	0·18
Cassilis	r	73	65	0·30
Clarence	r	81	67	0·45
C'nd'b'lin	u	81	49	0
Cooma	c	79	5[illegible]	0
Coonab'n.	r	86	66	0·24
Cowra	g	81	67	0·05
Cadg'lico.	h	84	[illegible]	0
Deni'q'n.	h	97	55	0
Dubbo	r	87	65	0·07
Eden	b	71	6[illegible]	0
Euston	h	98	61	0
Forbes	u	—	64	0
Glen Inn's	r	81	59	0·05
Goulburn	r	79	56	0
Grafton	r	87	65	0·46
Gulgong	u	77	5[illegible]	0·10
Gunned'h	o	80	68	0
Hay	b	91	63	0·32
Inverell	r	80	6[illegible]	0
Kiandra	f	62	47	0·68
Lismore	c	77	66	0·[illegible]4
Maitland	u	79	65	0·17
Marsdens	u	83	68	0
Menindie	[illegible]	7[illegible]	[illegible]	0
Molong	o	[illegible]	[illegible]	0
M'rurundi	c	7[illegible]	67	0
Moree	b	[illegible]	68	0
Moruya	o	70	60	0
Moss Vale	u	70	58	0·02
Mt. Hope	b	76	61	0·[illegible]
M. Vict'ria	r	61	54	0·22
Mudgee	r	87	71	0·01
M'rr'mb'h	c	8[illegible]	65	0
M'rr'rndi	r	76	62	0·12
Muswellb'k	u	81	62	0·05
Narrabri	u	87	[illegible]	0·10
Newcastle	g	79	[illegible]	0·71
Orange	c	70	58	0
[illegible]	o	75	6[illegible]	0·09
P. Macq'rie	r	79	[illegible]	0·10
P. St[illegible]	c	72	6[illegible]	0·13
[illegible]	b	71	6[illegible]	0
[illegible]	r	81	6[illegible]	0·01
[illegible]	r	75	67	0·15
Sydney	o	77	67	0·55
Tamworth	m	79	60	0
Tenterfield	g	7[illegible]	[illegible]	0·11
Th[illegible]	c	79	[illegible]9	0·10
Wagga	u	8[illegible]	69	0
W[illegible]	o	74	[illegible]	0
W[illegible]	r	93	67	0·25
W[illegible]	r	80	—	0·19
W[illegible]h	b	9[illegible]	65	0
Will'g'ng	r	79	65	0·32
Yeoman	-	—	—	-
Young	u	91	61	0

SYDNEY OBSERVATORY.

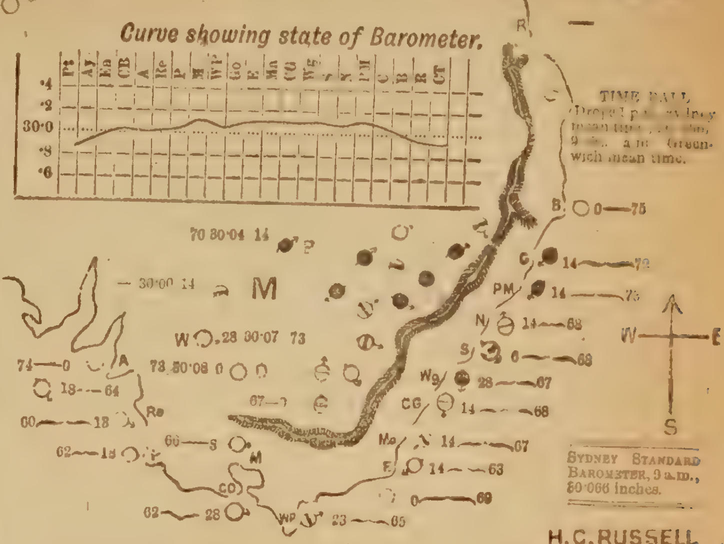
LATITUDE 33° 51' 41" S. LONGITUDE 10h. 4m. 50·7s. E.

MAGNETIC VARIATION, 9° 35' 37" E.

Average Annual Rainfall for 26 years...............49·489
Average for 29 years from Jan. 1 to Feb. 23, 1887 .... 9·147
Total Rainfall from Jan. 1. to March 19, 1887.......... 18·015

Barometers corrected to 32° Fah. and Mean Sea Level

If it is calm the arrow is used without the arrow.
Smooth sea.
Heavy sea.
Very heavy sea.



SYDNEY STANDARD BAROMETER, 9 a.m., 30·066 inches.

H. C. RUSSELL,
Government Astronomer.

NOTES EXPLANATORY OF MAP.

In the list of stations the column headed W.T. gives the state of the weather at 9 a.m.: b standing for blue sky; c, detached clouds; d, drizzling rain; f, fog; g, gloomy; h, hazy; m, misty; n, frosty; o, overcast; p, passing showers; r, rain; s, snow; t, thunder; u, threatening. The next column, M'x gives the maximum temperature for previous 24 hours. M'n the corresponding minimum temperature; r'n, the rain for the previous 24 hours. The symbols used in the map are explained on the margin. At each coast station the wind symbol is placed like a vane pointing to the direction from which the wind is coming. A clear circle with it means fine weather; a circle with bar, cloudy weather; and a black spot, raining. Next to this symbol are placed figures denoting the number of miles the wind is moving per hour; next, a symbol showing the state of the sea; and, lastly, figures denoting the shade temperature at 9 a.m. The barometer curve shows the state of barometers round the coast from Perth to Cooktown:—Pt, Perth; Ay, Albany; Ea, Eucla; CB, Cape Borda; A, Adelaide; Re, Robe; P, Portland; M, Melbourne; W P, Wilson's Promontory; Go, Gabo; E, Eden; Ma, Moruya; C G Jervis Bay; Wg, Wollongong; S, Sydney; N, Newcastle; P M, Port Macquarie; C, Clarence River; B, Brisbane; R, Rockhampton; Ct, Cooktown. Inland the state of barometer is given in figures at Albury, Deniliquin, Wentworth, Menindie, Bourke, and Alice Springs. The barometer curve enables one at a glance to trace the depressions, beginning with Western Australia, and passing along eastwards; northerly winds preceding them, and southerly following.

9 A.M. OBSERVATIONS.

West Australia.—At Esperance Bay, overcast and threatening, with light west wind and smooth sea. Barometer, 29·90; and temperature, 65°.

South Australia.—Generally fine, with scattered clouds, light S.E. winds and calms, fallen barometers, and smooth sea. Rainfall: Yam Creek, 0·91; and Port Darwin, 0·21 inches. Extremes of barometers and temperature: Cape Borda, 30·02; Port Darwin, 29·82; Daly Waters, 82°; and M'Donnell Bay, 60°.

Victoria.—Generally fine and cool, with light N.E. to S.E. winds, fallen barometers, and smooth to moderate sea. Light scattered clouds and haze at places, and heavy dew fell during the night generally. Extremes of barometers and temperature: Melbourne, 30·13; Ballarat, 29·99; Echuca, 73°; and Hamilton, 58°.

Tasmania.—Generally fine, with light variable winds and calms, risen barometers, and smooth sea. Extremes of barometers and temperature: Falmouth, 30·25; Southport, 30·15 and 58°; Low Heads, 65°.

New Zealand.—Cloudy and calm in extreme north. Barometer, 30·2; fine S. wind at Wellington; passing showers from W. at Bluff, with barometer at 30·0 inches.

New South Wales.—Generally overcast and threatening (except in S.W. parts, where it is fine), with light rain falling in places in N. and N.E. parts, light N. to E. and S.E. winds, almost steady barometers, and smooth to moderate sea; rain has fallen at scattered places, principally along the coast and range, and heaviest at Bourke, where over two inches fell. Extremes of barometers and temperature: Cape St. George, 30·11; Menindie, 30·00; Mudgee, 79°, and Kiandra, 52°. Extra stations: Wilcannia, 0·05 inch rain fallen, and still falling; Hill End, raining steadily; Lawrence, rainfall 0·50 inch to-day, total for this month 4·39 inches; Brewarrina, rainfall 1·01 inch. For further particulars see map.

Queensland.—Generally cloudy and unsettled, with showery weather at Mackay, Thargomindah, and Rockhampton; light easterly winds and calms, slightly risen barometers, and moderate sea. Rainfall: Mackay, 3·05; Normanton, 0·57; Brisbane, 0·33; Cooktown and Thargomindah, 0·30; and Mackay, 0·17 inches. Extremes of barometers and temperature: Cape Moreton, 30·02 and 73°; Normanton, 29·88; and Cooktown, 85°.

3 P.M. OBSERVATIONS.

Victoria.—Portland, S.E., 13, clouded, smooth sea, temperature 67°; Cape Otway, E., 34, fine and clear, slight sea, temperature 67°; Wilson's Promontory, N.E., 28, squally and mist, moderate sea, temperature 67°.

New South Wales.—Menindie, E., 14, raining, temperature 72°; Wentworth, E., 14, cloudy and dull, temperature 75°; Deniliquin, S.E., fine, temperature 83°; Eden, E., 14, fine, temperature 73°; Moruya, S., 28, showery, smooth sea, temperature 71°; Cape St. George, N., showery, smooth sea, temperature 72°; Sydney, N.N.E., showery; Newcastle, N.E., light wind, dull, smooth sea, temperature 72°; Port Macquarie, N.E., 42, showery, smooth sea, temperature 79°; Clarence River, N.E., light wind, fine, smooth sea, temperature 85°; Dubbo, S.E., 14, raining, temperature 71°; Goulburn, E., dull, temperature 67°.

Queensland.—Brisbane, N.E., 18, cloudy, temperature 79°; Cooktown calm, gloomy, salt y, temperature 81°, smooth sea; Roma, N.E., 18, overcast, temperature 80°; Cape Moreton, E., 23, sultry, overcast; Rockhampton, E., cloudy, temperature 81°.

HEIGHT OF RIVERS ABOVE SUMMER LEVEL.

Macintyre: At Mungindi, 20 feet. Barwon: At Mogil Mogil, 21 feet; at Walgett, 29 feet. Namoi: At Walgett, 18 feet 4 inches. Culgoa: At Goodooga, 4 feet 7 inches. Darling: At Brewarrina, 18 feet 6 inches; at Bourke, 29 feet 11 inches; at Louth, 29 feet 9 inches; at Wilpa, 33 feet 4 inches; at Wilcannia, 31 feet 3 inches; at Menindie, 25 feet 5 inches; at Pooncarie, 21 feet 6 inches; at Wentworth, 10 feet 3 inches. Murrumbidgee: At Gundagai, 3 feet 10 inches; at Wagga, 6 feet; at Hay, 7 feet 6 inches; at Balranald, 10 feet 6 inches. Murray: At Albury, 3 feet; at Euston, 5 feet 10 inches.

ASTRONOMICAL MEMORANDA FOR MARCH 21.

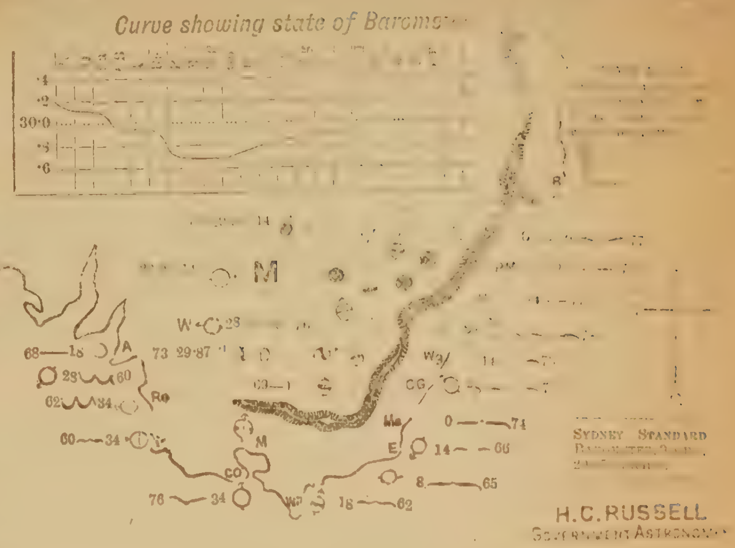
Sun rises at 6.5, sets at 6.9; Moon, rises at 2.58 a.m., sets at 4.14 p.m.; Mercury, 6.26 a.m., 6.6 p.m.; Venus, 8.4 a.m., 7.20 p.m; Mars, 6.43 a.m., 6.35 p.m.; Jupiter, 7.42 p.m., 8.50 a.m.; Saturn, 2.17 p.m., 12.11 a.m. Full moon, 10th; new moon, 24th.

High water at Fort Denison, March 21: 6.2 a.m., 6.29 p.m.

H. A. LENEHAN,
Acting Government Astronomer.

LATITUDE 33° 51' 41" S. LONGITUDE 151° 12' 23" E.

Average Annual Rainfall for 28 years ...
Average for 28 years from Jan. 1 to ...



[illegible]	r	83	65	2·39
[illegible]	b	80	65	0·01
Balranald	b	85	55	0·15
Bathurst	c	69	59	0·70
Bendem'r	u	80	63	0·02
[illegible]				
Bourke	r	89	75	0·67
[illegible]				
[illegible]	b			
C. St Geo.	b			
Carcoar	b	70	48	0·60
Casino	b	87	63	0·44
[illegible]				
Clarence	b	[illegible]		
C'nd'b'lin	u	[illegible]		
Cooma	c	[illegible]		
Coonab'n	r	[illegible]		
Cowra	g	[illegible]		
Cudg'llico	u	[illegible]		
Deniliq'n	g	[illegible]		
Dubbo	r	[illegible]		
Eden	b	7[illegible]	62	0·59
Euston	l	[illegible]		0
Forbes	u	[illegible]		1·66
Glen Inn's	b	[illegible]		
Goulburn	u	73	56	1·56
Grafton	c	81	69	0·35
Gulgong	r	70	51	1·50
Gunned'h	b	83	68	0
Hay	b	84	63	0
Inverell	b	80	65	0
Kiandra	f	60	50	1·29
Lismore	f	84	69	0·03
Maitland	b	81	67	0·20
Marsdens	g	80	70	1·55
Menindie	b	79	69	0
Molong	u	73	60	1·05
M'r'ng'r'll	g	73	65	1·95
Moree	b	89	65	0
Moruya	b	77	64	1·39
Moss Vale	b	72	63	0·90
Mt. Hope	u	81	66	3·02
M.Vict'ria	b	67	56	0·53
Mudgee	r	72	57	1·30
M'rr'mb'h	c	69	64	2·13
M'rr'r'ndi	o	77	63	0·67
Mus'lbr'k	b	76	63	0·73
Narrabri	o	87	68	0·06
Newcastle	b	78	69	0·62
Orange	g	69	63	0·53
Picton	i	76	61	0·96
P. M'q'rie	h	79	67	0
P. St'ph'n	b	78	66	0·58
Q'nbeyan	g	67	62	2·75
Quirindi	o	83	65	0·56
Singleton	b	78	65	0·82
SYDNEY	b	79	68	0·40
Taralga	r	68	58	1·46
Taree	b	81	70	1·51
T'nt'rfield	b	83	68	0
Wagga	g	81	59	1·17
Walcha	u	74	55	0
Walgett	c	85	72	1·04
Warrah	r	80	—	0·74
W'ntw'rth	b	94	65	0
W'll'ng'ng	b	79	67	0·01
Yetman	-	—	—	0
Young	c	73	70	2·37

NOTES EXPLANATORY OF MAP.

In the list of stations the column headed W. gives the state of the weather at 9 a.m., b standing for blue sky; c, detached clouds; d, drizzling rain; f, fog; g, gloomy; h, hazy; m, misty; n, frosty; o, overcast; p, passing showers; r, rain; s, snow; t, thunder; u, threatening. The next column, M'x gives the maximum temperature for the previous 24 hours. M'n the corresponding minimum temperature; r'n, the ... the ... hours. The symbols used in the map are explained on ... the wind symbol is placed like a vane pointing to the ... coming. A clear circle with it means fine weather; ... weather; and a black spot, raining. Next to this symbol are placed figures ... the number of miles the wind is moving per hour; next, a symbol showing the ... of the sea; and, lastly, figures denoting the shade temperature at 9 a.m. The barometer curve shows the state of barometers round the coast from Perth to Cooktown:—Pt, Perth; Ay, Albany; Ea, Eucla; CB, Cape Borda; A, Adelaide; Re, Robe; P, Portland; M, Melbourne; W P, Wilson's Promontory; Go, Gabo; E, Eden; Ma, Moruya; C G Jervis Bay; Wg, Wollongong; S, Sydney; N, Newcastle; P M, Port Macquarie; C, Clarence River; B, Brisbane; R, Rockhampton; Ct, Cooktown. Inland the state of barometer is given in figures at Albury, Deniliquin, Wentworth, Menindie, Bourke, and Alice Springs. The barometer curve enables one at a glance to trace the depressions, beginning with Western Australia, and passing along eastwards; northerly winds preceding them, and southerly following.

9 A.M. OBSERVATIONS.

Western Australia.—At **Albany**: Gloomy weather, with light east wind and smooth sea. Barometer, 30·23.

South Australia.—Generally cloudy south of Farina, with gloomy and threatening weather in parts, light to fresh W. to S. winds, fallen barometers and rough sea. Thunderstorms in parts yesterday. Rainfall: 1·08. Appila, 1·00; Orroroo, 0·73; and Wilson, 0·65 inches. Extremes of barometers and temperature: Eucla, 30·11 and 54°; Port Darwin, 29·79 and 87°.

Victoria.—Generally cloudy and unsettled, with fresh to strong N. to W. winds, fallen barometers, and smooth to moderate sea, squally and foggy on the coast. Rainfall: Omeo, 0·70; Ballarat, 0·26; Lakes Entrance, 0·07; Cape Otway, 0·08; and Wilson's Promontory, 0·01 inches. Cape Otway reports: Fog, followed by thunder and lightning, during the night. Extremes of barometers and temperature: Echuca, 29·83; Cape Otway, 29·63 and 76°; Hamilton, 60°.

Tasmania.—Generally gloomy and threatening, with light to fresh N. to E. winds, fallen barometers, and rough sea. Extremes of barometers and temperature: Southport, 29·79; Hobart, 29·64 and 65°; Falmouth, 61°.

New Zealand.—Generally fine; in extreme north calm, to southward N.W. winds. Barometers: Russell, 30·3; Wellington, 30·1; and Bluff, 30·0.

New South Wales.—Cloudy and gloomy along the western slope of the dividing range, with more or less heavy rains falling in the New England and Upper Darling districts. Along the coast and in S.W. parts it is generally fine, winds are light, chiefly from N.W. to N.E., with calms in places, barometers have fallen, and the sea is smooth. During the last 48 hours rain has fallen in the Eastern division generally, principally in south parts, and heaviest on the Upper Murrumbidgee and Lachlan Rivers. Mount Hope reports 3·02 inches; Queanbeyan, 2·75; Albury, 2·39; Young, 2·37; Murrumburrah, 2·13, and 15 other stations scattered over the same districts had above an inch. Extra stations: Brewarrina, 2·15 inches rain; Temora and Lawrence, 1·70 inches; Hill End, 1·20, and Tumut, 1·19 inch. For further particulars see map.

Queensland.—Generally cloudy and unsettled, with light S. to E. winds, and smooth to moderate sea. Rainfall: Mackay, 0·51; Boulia, 0·21; Hughenden, 0·19; and in South Coast districts from 0·04 to 0·08 inches.

3 P.M. OBSERVATIONS.

Victoria.—Portland, W., 65, fine, smooth sea, temperature 6[illegible]; Cape Otway, N.W., 48, squally and misty, rather rough sea, temperature 65°; Melbourne, W.S.W., 18, cloudy, thunder showers at noon, temperature 72°; Cape Schanck, W., 13, showery and misty, moderate sea, temperature 68°; Lakes Entrance, N., 18, fine and sultry, temperature 82°.

New South Wales.—Menindie, S.W., 28, fine and hot, temperature 80°; Wentworth, S.W., 42, fine, temperature 75°; Deniliquin, N.W., 28, fine, temperature 83°; Eden, E., 14, fine, rough sea, temperature 74°; Moruya, N.N.E., 28, fine, smooth sea, temperature 80°; Cape St. George, W., 28, fine but cloudy, smooth sea, temperature 72°; Sydney, N.N.W., 15, dull and muggy, smooth sea, temperature 77°; Newcastle, W.N.W., 14, dull, smooth sea; Walgett, N.W., 14, showery, temperature 78°; Dubbo, calm, overcast and showery, temperature 73°; Goulburn, N.W., 14, dull, temperature 72°.

Queensland.—Normanton, N.W., sultry, threatening rain, thermometer 86°; Brisbane, N.E., 18, thermometer 8[illegible]; Cape Moreton, N.E., 23, thermometer 83°; Roma, N.N.E., 13, thermometer 84°; Townsville, calm, overcast, sea very smooth.

HEIGHT OF RIVERS ABOVE SUMMER LEVEL.

Macintyre: At Mungindi, 19 feet. Barwon: At Mogil Mogil, 20 feet; at Walgett, 26 feet 6 inches. Namoi: At Walgett, 16 feet. Culgoa: At Goodooga, 4 feet 11 inches. Darling: At Brewarrina, 18 feet 4 inches; at Bourke, 30 feet; at Louth, 29 feet 10 inches; at Tilpa, 33 feet 6 inches; at Wilcannia, 31 feet 6 inches; at Menindie, 25 feet 8 inches; at Pooncarie, 22 feet 7 inches; at Wentworth, 10 feet 5 inches. Murrumbidgee: At Gundagai, 19 feet 6 inches; at Wagga, 7 feet; at Hay, 8 feet 8 inches; at Balranald, 11 feet 9 inches. Murray: At Albury, 3 feet; at Euston, 6 feet 2 inches.

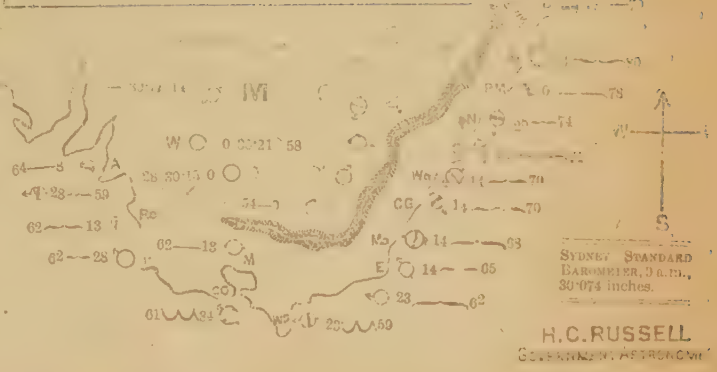
ASTRONOMICAL MEMORANDA FOR MARCH 22.

Sun rises at 6.6, sets at 6.8; Moon, rises at 3.52 a.m., sets at 4.50 p.m.; Mercury, 6.16 a.m., 5.59 p.m.; Venus, 8.6 a.m., 7.19 p.m.; Mars, 6.43 a.m., 6.33 p.m.; Jupiter, 7.38 p.m., 8.46 a.m.; Saturn, 2.13 p.m., 12.7 a.m. Full moon, 10th; new moon, 25th.

High water at Fort Denison: 6.52 a.m., 7.14 p.m.

H. A. LENEHAN,
Acting Government Astronomer.

Euston ..	b	85	61	0	
Forbes ..	b	—	62	0	
Grafton		90	73	0	
Gulgong ..	b	75	59	0·60	
Gunned'h	c	86	69	1·75	
Hay ..	b	86	49	0	
Inverell ..	u	82	68	0	
Kiandra ..	b	70	47	0·04	
Lismore ..	b	89	71	0	
Maitland ..	c	84	69	0·15	
Marsdens.	-	—	—	-	
Menindie.	b	65	58	0	
Molong ..	o	70	63	1·79	
M'r'ng'r'll	-	—	—	-	
Moree ..	g	90	70	0	
Moruya ..	u	84	66	0	
Moss Vale	u	72	62	0	
Mt. Hope	b	87	58	0	
M. Vict'ria	u	72	59	0·21	



Mudgee ..	c	73	58	0·75	
M'rr'mb'h	b	84	60	0·11	
M'rr'r'ndi	b	76	66	2·55	
Mus'lbr'k	-	—	—	-	
Narrabri	g	9[illegible]	[illegible]	0·19	
Newcastle	c	87	69	0·22	
Orange	[illegible]	[illegible]	[illegible]	[illegible]	
[illegible]	o	82	69	0	
[illegible]	c	80	68	0	
[illegible]	c	83	66	0·85	
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	
[illegible]	b	[illegible]	[illegible]	[illegible]	
[illegible]	b	[illegible]	[illegible]	[illegible]	
Sydney ..	o	85	64	0·06	
Taralga ..	g	78	60	0	
Taree ..	b	92	72	1·82	
T'nt'rfield	b	86	76	0	
Wagga ..	b	86	48	0	
Walcha ..	r	76	58	0·14	
Walgett ..	u	91	67	0·55	
Warrah ..	b	78	—	1·92	
W'ntw'rth	b	82	56	0	
W'll'ng'ng	c	83	69	0	
Yetman ..	-	—	—	-	
Young ..	-	—	—	-	

NOTES EXPLANATORY OF MAP.

In the li[illegible] the weather at 9 a.m., b [illegible] hours. The symbols used in the map are explained on the margin. At each coast station the wind symbol is placed like a vane pointing to the direction from which the wind is coming [illegible] Bay; Wg, Wollongong; S, Sydney; N, Newcastle; PM, Port Macquarie; C, Clarence River; B, Brisbane; R, Rockhampton; Ct, Cooktown. Inland the state of barometer is given [illegible] beginning with Western Australia, and passing along eastwards; northerly winds preceding them, and southerly following.

9 A.M. OBSERVATIONS.

Western Australia.—Generally more or less cloudy along the West Coast, and in places threatening; fine and clear in south parts; light N.W. to S.W. winds, fallen barometers, and moderate sea. Extremes of barometers and temperature: Esperance Bay 30·22, Carnarvon 29·80, Cossack 80·, and Esperance Bay 50·.

South Australia.—Generally fine and cool inland, overcast and gloomy in and near the coast, with light W. to S. winds and calms, risen barometers, and moderate sea. Extremes of barometers and temperature: Eucla 30·18, Port Darwin 29·78 and 87·, M'Donnell Bay 61·.

Victoria.—Generally fine and cool, with light to fresh N. to W. winds, risen barometers, and moderate to rough sea. Light clouds and mists in places on the coast. Extremes of barometers and temperature: Echuca, 30·11; Portland, 29·98; Horsham, 70·; and Hamilton, 57·.

Tasmania.—Generally more or less cloudy and unsettled, with fresh N.W. to W. winds, fallen barometers, and moderate to rough sea. Showery at Circular Heads and Southport. Rainfall: Southport, 0·50; Hobart, 0·01; Low Heads, 0·28; Falmouth, 0·11; and Circular Heads, 0·07 inches. Extremes of barometers and temperature: Low Heads, 29·89 and 60·; Hobart, 29·66; and Circular Heads, 64·.

New Zealand.—In extreme north fine and calm; at Wellington and Bluff, showery from N.W. and N.E. respectively. Barometers: Russell, 30·3; Wellington, 30·0; and Bluff, 29·7.

New South Wales.—Generally fine but unsettled, with clouds in east parts, and drizzling rain at Walcha; light, variable winds and calms, risen barometers, and smooth sea. Rain has fallen in east parts generally; heaviest in the New England districts; Murrurundi reports 2·55 inches, and eight other stations thereabouts had from 1 to 2 inches. Extremes of barometers and temperature: Wentworth, 30·21; Gabo, 29·95; Clarence, 80·; and Cooma, 47·. Extra stations: Brewarrina, 0·63 inches rain; Hill End, 0·40 inches rain. For further particulars, see map.

Queensland.—Generally cloudy and unsettled, with light N. to E. winds, risen barometers, and moderate sea; a gale blew during the night at Cooktown. Rainfall: Cooktown, 3·95; Boulia, 0·52; Rockhampton, 0·15; and Mackay, 0·11; at the three last mentioned stations it was still raining at 9 a.m. Extremes of barometers and temperature: Brisbane, 30·07; Normanton, 29·91; Cooktown, 85·; and Townsville, 77·.

3 P.M. OBSERVATIONS.

New South Wales. Menindie, calm, fine, temperature [illegible]; Wentworth, S.W., 14, fine, temperature 68·; Deniliquin, N.W., 14, fine, temperature 75·; Eden, N.E., 14, fine, smooth sea, temperature 69·; Moruya, N.E., 28, fine, overcast, and like rain, smooth sea, temperature 71·; Cape St. George, E.N.E., 14, cloudy and dull, smooth sea, temperature 71·; Sydney, S.E., 8, overcast and dull, smooth sea, temperature 71·; Newcastle, S., 14, cloudy, smooth sea, temperature 63·; Port Macquarie, S.E., 14, cloudy and unsettled, smooth sea, temperature 84·; Clarence River, N.E., 14, fine, smooth sea, temperature 89·; Walgett, calm, dull, like rain, temperature 77·; Dubbo, N.W., 14, fine, but cloudy, temperature 77·; Goulburn, N.W., 14, fine, temperature 74·.

Queensland.—Brisbane, N.E., 18, fine, thermometer 84·; Cape Moreton, N.E., 23, fine, thermometer 81·; Mackay, N.E., fine; Rockhampton, E.N.E., showery, thermometer 8[illegible]; Roma, E.N.E., fine and sultry, thermometer 86·; Normanton, calm, threatening rain, thermometer 95·.

HEIGHT OF RIVERS ABOVE SUMMER LEVEL.

Macintyre: At Mungindi, 18 feet. Barwon: At Mogil Mogil, 20 feet; at Walgett, 26 feet. Namoi: At Walgett, 15 feet 6 inches. Culgoa: At Goodooga, 5 feet 1 inch. Darling: At Brewarrina, 18 feet 4 inches; at Bourke, [illegible] feet 5 inches; at Louth, 30 feet 3 inches; at Tilpa, 33 feet 6 inches; at Wilcannia, 31 feet 6 inches; at Menindie, 25 feet 10 inches; at Pooncarie, 21 feet 7 inches; at Wentworth, 10 feet 6 inches. Murrumbidgee: At Gundagai, 1[illegible] feet; at Wagga, 1[illegible] feet 3 inches; at Hay, 8 feet 11 inches; at Balranald, 11 feet 9 inches. Murray: At Albury, 3 feet; at Euston, 6 feet 2 inches.

ASTRONOMICAL MEMORANDA FOR MARCH 23.

Sun rises at 6.7, sets at 6.6; Moon, rises at 4.45 a.m., sets at 5.23 p.m.; Mercury, 6.6 a.m., 5.52 p.m.; Venus, 8.8 a.m., 7.18 p.m; Mars, 6.43 a.m., 6.31 p.m.; Jupiter, 7.34 p.m., 8.12 a.m.; Saturn, 2.9 p.m., 12.3 a.m. Full moon, 10th; new moon, 25th.

High water at Fort Denison: 7.34 a.m., 7.53 p.m.

H. A. LENEHAN,
Acting Government Astronomer.

Stations.	W	Mx	Mn	Rn
Albury ..	b	76	50	0
Armidale	r	80	65	0·47
Balranald	b	91	54	0
Bathurst	c	80	59	0
Bendem'r	r	77	67	0·28
Bodalla ..	b	74	[illegible]	0
Bourke .	c	78	69	0·[illegible]
Buncarra	c	8[illegible]	[illegible]	0·60
C'md'n H.	g	81	71	0·[illegible]
C. St. Geo.	b	75	61	0
Carcoar ..	g	75	50	0
Casino ..	b	95	71	0
Cassilis ..	b	77	69	0·03
Clarence .	b	87	77	0
C'nd'b'lin	b	87	60	0
Cooma ..	c	81	47	0
Coonab'n.	u	78	67	0·05
Cowra ..	c	86	68	0
Cudg'llico	b	93	61	0
Deniliq'n.	b	83	44	0
Dubbo ..	b	87	64	0·01
Eden	b	74	64	0
Euston ..	c	87	41	0
Forbes ..	b		63	0·10
Glen Inn's	u	92	69	0·13
Goulburn	b	84	54	0
Grafton ..	b	94	72	2·15
Gulgong .	u	80	62	0
Gunned'h	–	—	—	–
Hay . ..	c	77	50	0
Inverell ..	c	80	69	0·70
Kiandra. .	b	72	44	0
Lismore. .	b	93	75	0
Maitland .	b	88	67	0
Marsdens.	–	—	—	–
Menindie.	b	75	57	0
Molong ..	c	71	62	0
M'r'ng'r'll	b	79	61	0
Moree ..	c	90	60	0·40
Moruya ..	b	79	69	0
Moss Vale	u	74	61	0·02
Mt. Hope	b	97	61	0
M. Vict'ria	b	75	59	0
Mudgee ..	u	89	59	0·02
M'rr'mb'h	o	81	62	0
M'rr'r'ndi	c	77	68	0·04
Mus'lbr'k	g	92	64	0·12
Narrabri	g	87	70	0·54
Newcastle	b	82	69	0·03
Orange ...	b	75	62	0
[illegible]ton .	b	73	64	0
P. M'q'rie	g	84	71	0·10
P. St'ph'n	c	78	66	0·05
Q'nbeyan	b	74	61	0
Quirindi	b	82	69	0
Singleton	b	80	71	0·05
SYDNEY ..	b	74	66	0
Taralga ..	r	78	62	0·22
Taree ..	g	85	72	0·13
T'nt'rfield	r	70	66	2·13
Wagga ..	b	81	51	0
Walcha ..	r	73	59	0·48
Walgett...	b	81	70	0
Warrah ..	b	82	—	0·05
W'ntw'rth	b	79	51	0
W'll'ng'ng	b	74	68	0
Yetman..		—	—	–
Young ..	g	91	58	0

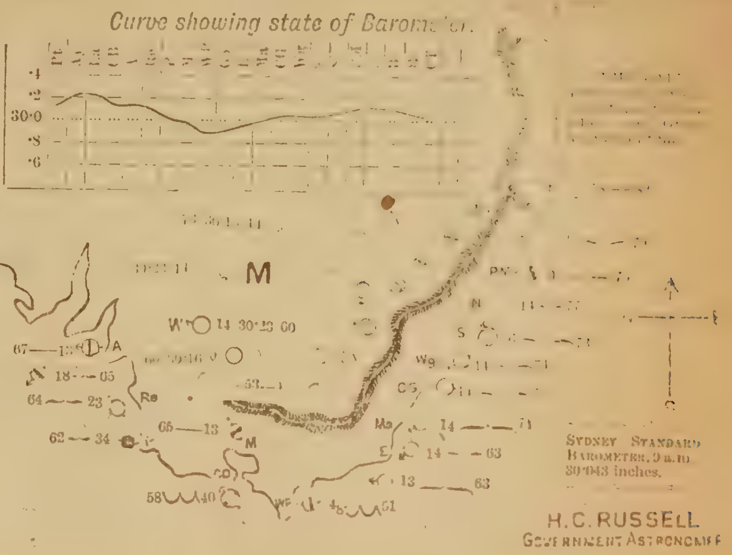
SYDNEY OBSERVATORY

LATITUDE 33° 51′ 41″ S. LONGITUDE 10h. 4m. 50·8s. E.

Average Annual Rainfall for 28 years ...

Average for 29 years from Jan. 1 to ...

Total Rainfall from Jan. 1 to M...



NOTES EXPLANATORY OF MAP.

In the list of stations the column headed W. [illegible] gives the state of the weather at 9 a.m., b standing for blue sky; c, detached clouds; d, drizzling rain; f, fog; g, gloomy; h, hazy; m, misty; n, frosty; o, overcast; p, passing showers; r, rain; s, storm; t, thunder; u, threatening. The next column, M'x [illegible] hours. M'n the corresponding [illegible] hours. [illegible] the wind symbol [illegible] like a vane pointing to the direction from which the wind is coming. A clear circle with it means fine weather; a circle with bar, cloudy weather; and a black spot, raining. Next to this symbol are placed figures denoting the number of miles the wind is moving per hour; next, a symbol showing the state of the sea; and, lastly, figures denoting the shade temperature at 9 a.m. The barometer curve shows the state of barometers round the coast from Perth to Cooktown. [illegible] Perth; Ay. Albany; Ea. Eucla; CB. Cape Borda; A. Adelaide; Re. Robe; P. Portland; M. Melbourne; WP. Wilson's Promontory; Go. Gabo; E. Eden; Ma. Moruya; [illegible] Bay; Wg. Wollongong; S. Sydney; N. Newcastle; PM. Port Macquarie; C. Clarence River; B. Brisbane; R. Rockhampton; Ct. Cooktown. Inland the state of barometer is given in figures at Albury, Deniliquin, Wentworth, Menindie, Bourke, [illegible] Springs. The barometer curve enables one at a glance to trace the depressions, beginning with Western Australia, and passing along eastwards; northerly winds preceding them, and southerly following.

9 A.M. OBSERVATIONS.

Western Australia.—Cloudy and unsettled on the west coast, with lightning and thunder all round at Carnarvon; fine and clear in south parts; light westerly winds, risen barometers, and smooth sea. Extremes of barometers and temperature: Esperance Bay, 30·23 and 59·; Carnarvon, 29·88; and Ashburton, 80·.

South Australia.—Generally cloudy and gloomy south of Quorn, with light S. to W. winds and calms, risen barometers, and moderate sea. Rainfall: M'Donnell Bay, 0·16, and still showery; Yam Creek, 0·10; Tennant's Creek, 0·09; Cape Borda, 0·10; Port Darwin, 0·03; and Robe, 0·01 inch. Extremes of barometers and temperature: Eucla 30·23 and 60·; Port Darwin 29·81 and 87·.

Victoria.—Fine inland, cloudy on the coast, and passing showers at Portland, with fresh to strong westerly winds, steady barometers, and rough sea. Squally and misty on the coast. Rainfall: Cape Otway, 0·07, and Hamilton, 0·03 inch. Extremes of barometers and temperature: Melbourne, 30·06; Lakes Entrance, 29·96; Horsham, 69·; and Cape Otway, 58·.

Tasmania.—Generally more or less cloudy and squally, with strong westerly winds, and moderate to rough sea. Rainfall: Circular Heads, 0·25; Low Heads, 0·12, and Hobart, 0·04 inch. Extremes of barometers and temperature: Circular Head, 29·84; Hobart, 29·61and 58; and Low Heads, 68·.

New Zealand.—Generally fine, with light variable winds and calms. Fresh N.W. wind at Gisbourne, and 0·11 inch rain fallen at Wellington. Barometers: Russell, 30·3; Gisbourne, 30·1; Wellington, 30·0; and Bluff, 29·9.

New South Wales.—Generally fine and warm, with clouds and showery weather at places on the range, principally in north; light variable winds and calms, risen barometers, and smooth sea. Rain has fallen at scattered places, heaviest on the range in north, where over two inches are reported from some stations. Extremes of barometers and temperature: Wentworth and Menindie, 30·23; Gabo, 29·92; Clarence, 79·; and Cooma, 51·. Extra station: Brewarrina, 0·02 inch rain. For further particulars see map.

Queensland.—Showery in N. and N.E. parts, fine but unsettled in south, with light N.E. to S.E. winds, risen barometers, and moderate sea. Rainfall: Roma, 0·22; Rockhampton, 0·19; Normanton, 0·17; Townsville, 0·12; Mackay, 0·09; Boulia, 0·08; and Brisbane, 0·01 inch. Extremes of barometers and temperature:

3 P.M. OBSERVATIONS.

Victoria. Portland, W.N.W., 40, passing showers, smooth sea, temperature 62·; Cape Otway, W.N.W., 48, misty and squally, rough sea, temperature 62·; Melbourne, N.W., 13, cloudy and squally, temperature 73·; Cape Schanck, W., 28, cloudy, rough sea, temperature 67·; Wilson's Promontory, W., 48, cloudy and squally, rough sea, temperature 62·; Lakes Entrance, W., 13, fine but cloudy, temperature 71·.

New South Wales. Menindie, calm, fine but cloudy, temperature 70·; Wentworth, W., 14, fine, temperature 70·; Deniliquin, W., 14, fine, but cloudy, temperature 75·; Eden, N.E., 14, fine, smooth sea, temperature 69·; Moruya, S., 14, overcast and dull, smooth sea, temperature 74·; Cape St. George, W., 42, cloudy, and fresh, smooth sea, temperature 79·; Sydney, E.N.E., 14, fine and hot, smooth sea, temperature 78·; Newcastle, N.E., 14, fine, smooth sea, temperature 78·; Port Macquarie, N.E., 14, cloudy and sultry, smooth sea, temperature 81·; Clarence River, N.E., 14, fine, smooth sea, temperature 78·; Walgett, calm, cloudy, and warm, temperature 81·; Dubbo, W., 14, fine, temperature 78·; Goulburn, N.W., 14, fine, temperature 73·.

Queensland.—Cape Moreton, N.E., 23, fine, temperature 81·; Brisbane, N.E., 18, cloudy, temperature 83; Roma, N.N.E., 8, cloudy, temperature 72·; Normanton, S.E., fine but cloudy, sultry, temperature 10[illegible]; Cooktown, S.E., showery, slight, temperature 82·.

HEIGHT OF RIVERS ABOVE SUMMER LEVEL.

Macintyre: At Mungindi, 17 feet. Barwon: At Mogil Mogil, 20 feet; at Walgett, 26 feet 6 inches. Namoi: At Walgett, 16 feet 10 inches. Culgoa: At Goodooga, 5 feet 3 inches. Darling: At Brewarrina, 18 feet 4 inches; at Bourke, 30 feet 5 inches; at Louth, 30 feet 4 inches; at Tilpa, 33 feet 9 inches; at Wilcannia, 31 feet 6 inches; at Menindie, 25 feet; at Pooncarie, 22 feet 8 inches; at Wentworth, 10 feet 9 inches. Murrumbidgee: At Gundagai, 16 feet 3 inches; at Wagga, 21 feet 9 inches, at Hay, 8 feet 11 inches; at Balranald, 11 feet 9 inches. Murray: At Albury, 3 feet 9 inches; at Euston, 6 feet.

ASTRONOMICAL MEMORANDA FOR MARCH 24.

Sun rises at 6.8, sets at 6.5; Moon, rises at 5.38 a.m., sets at 5.56 p.m.; Mercury, 5.56 a.m., 5.45 p.m.; Venus, 8.11 a.m., 7.17 p.m.; Mars, 6.43 a.m., 6.29 p.m.; Jupiter, 7.29 p.m., 8.37 a.m.; Saturn, 2.5 p.m., 11.59 p.m. Full moon, 10th; new moon, 25th.

High water at Fort Denison March 4: 8.11 a.m., 8.28 p.m.

H. A. LENEHAN,

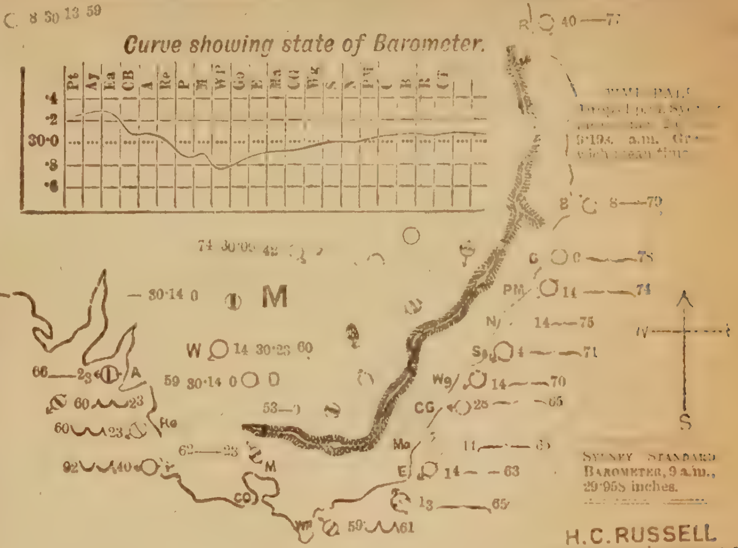
Stations.	W	M	M'n	R
Albury ..	g	75	49	0
Armidale	b	76	64	0·03
Balranald	g	93	49	0
Bathurst	h	86	50	0
Bendem'r	u	73	64	0·32
Bodalla ..	g	81	53	0
Bourke ..	b	82	69	0
Bungarra	c	77	63	0·04
C'md'n H.	b	83	72	0
C. St. Geo.	b	87	61	0
Carcoar ..	b	72	46	0
Casino ..	b	96	71	0
Cassilis ..	b	76	65	0
Clarence .	b	88	74	0
C'nd'b'lin	c	87	45	0
Cooma ..	c	76	49	0
Coonab'n.	b	83	56	0·52
Cowra ..	b	83	60	0
Cudg'llico	b	88	56	0
Deniliq'n.	g	84	46	0
Dubbo ..	h	86	57	0
Eden	b	72	56	0
Euston ..	g	84	45	0
Forbes ..	g	—	62	0
Glen Inn's	c	72	61	0
Goulburn	b	79	49	0
Grafton ..	b	84	74	0·02
Gulgong .	b	82	55	0
Gunned'h	–	84	68	1·78
Hay	g	78	50	0
Inverell ..	o	78	50	0·02
Kiandra ..	u	68	37	0
Lismore. .	b	91	73	0
Maitland .	b	81	[illegible]	0
Marsdens.	c	78	91	0
Menindie.	c	69	59	0
Molong ..	b	82	62	0
M'.'ng'r'll	g	77	65	0
Moree ..	o	88	67	0·03
Moruya ..	b	75	67	0
Moss Vale	g	77	58	0
Mt. Hope	b	86	95	0
M. Vict'ria	c	75	53	0

SYDNEY OBSERVATORY

LATITUDE 33° 51' 41" S. LONGITUDE 10h. 4m. 50·8s. E.

MAGNETIC VARIATION, 9° 35' 37" E.

Average Annual Rainfall for 28 years



SYDNEY STANDARD BAROMETER, 9 a.m., 29·958 inches.

H. C. RUSSELL
GOVERNMENT ASTRONOMER

Stations.	W	M	M'n	R
Mudgee ..	g	92	54	0
M'n'mb'h	q	83	52	0
M'r'r'ndi	r	77	68	0·39
M'swl'br'k	b	84	62	0·05
Narrabri	o	87	64	0·02
Newcastle	b	89	70	0
Orange ..	b	74	50	0
P. ton ..	o	82	58	0
P. M'c'rie	b	83	67	0·02
P. St'ph'n	b	82	66	0
Q'nbeyan	b	73	55	0
Quirindi	g	81	69	0·23
Singleton	b	78	64	0.02
SYDNEY ..	b	83	65	0
Tarago ..	b	73	58	0
Taree ..	g	82	70	0·12
T'nt'field	o	88	59	0·94
Wagga ..	g	80	46	0
Walcha ..	o	78	58	0·13
Walgett ..	b	87	69	0·06
Wan..a ..	g	82	—	0·19
W'ntw'rth	o	77	55	0
W'll'ng'ng	b	84	65	0
Yetman ..	–	—	—	–
Young ..	b	91	47	0

NOTES EXPLANATORY OF MAP.

In the list of stations the column headed W. gives the state of the weather at 9 a.m., b standing for blue sky; c, detached clouds; d, drizzling rain; f, fog; g, gloomy; h, hazy; m, misty; n, frosty; o, overcast; p, passing showers; r, rain; s, snow; t, thunder; u, threatening. The next column, M's gives the maximum temperature for previous 24 hours. M'n the corresponding minimum temperature; R the rain for the previous 24 hours. The symbols used in the map are explained on the margin. At each coast station the wind symbol is placed like a vane pointing to the direction from which the wind is coming. A clear circle with it means fine weather; a circle with bar, cloudy weather; and a black spot, raining. Next to this symbol are placed figures denoting the number of miles the wind is moving per hour; next, a symbol showing the state of the sea; and, lastly, figures denoting the shade temperature at 9 a.m. The barometer curve shows the state of barometers round the coast from Perth to Cooktown:—Pt, Perth; Ay, Albany; Ea, Eucla; CB, Cape Borda; A, Adelaide; Ro, Robe; P, Portland; M, Melbourne; WP, Wilson's Promontory, Go, Gabo; E, Eden; Mo, Moruya; ... Bay; Wg, Wollongong, S, Sydney, N, Newcastle; PM, Port Macquarie; C, Clarence River; B, Brisbane; R, Rockhampton, Ct, Cooktown. Inland the state of barometer is given in figures at Albury, Deniliquin, Wentworth, Menindie, Bourke, and Alice Springs. The barometer curve enables one at a glance to trace the ... beginning with Western Australia, and passing along eastwards; northerly winds preceding them, and southerly following.

Western Australia.—Fine, but cloudy generally, sea smooth; light S. to S.E. winds, risen barometers. Extremes of barometers and temperature: Albany, 30·27; Cossack, 29·80; Perth, 82°; Esperance Bay, 57°.

South Australia.—Fine generally inland and northern stations, while stations on and near S. coast are overcast and gloomy; wind chiefly from W. and S.W., and blowing rather strong. Rainfall: At Port Darwin, 0·05; Daly Water, 1·17; and Yam Creek, 0·90. Squally and showery at M'Donnell Bay and Cape Borda. Sea rough at Cape Borda and Robe.

Victoria.—Cloudy generally, with rain falling on west coast, and wind strong, varying from N. to N.E.; sea very rough, with fierce squally weather to the East; barometers fallen. Extremes of barometers and temperature: Melbourne, 29·93; Wilson's Promontory, 29·70 — 59°; Horsham, 67°.

Tasmania.—Dull and cloudy generally, with rain in the north, wind east and north-east, very squally; sea moderate. Low Head reports 0·09, Hobart 0·03 inches, barometers fallen.

New Zealand.—Barometer 30·2 at Russell, calm and clear; at Wellington, 29·9, N.W. wind, misty rain, and foggy; Bluff 29·7, W. wind, fine and clear.

New South Wales.—Generally fine and calm, dull, like rain at Bendemeer and Deniliquin; dull also at Euston, Forbes, Menindie, Morangarell, Quirindi, Taree, Tenterfield, Wagga, and Wentworth; showery at Murrurundi. Additional stations: Coonamble, calm, like rain, and very foggy; Hill End, S.W., fine, clear; Wilcannia, calm, fine, and clear; Lake Cudgellico, max. 86, min. 55, clear and warm. Smooth sea all down the east coast.

Queensland.—Fine generally, but cloudy in places to the S. and on the coast, hot and hazy in central parts, wind varying from S.E. to N.W., with sea smooth to moderate, and fallen barometers; heavy rains have fallen on the coast, and Cooktown reports 1·26, Townsville 0·20, Port Mackay 0·66, Brisbane 0·01, while of the inland stations Boulia had 0·52 inch. Extremes of barometers and temperatures: Rockhampton, 30·08; Normanton, 29·92; Cooktown, 87°; Brisbane, 76°.

3 P.M. OBSERVATIONS.

Victoria.—Portland, W., 48, passing showers, smooth sea, temperature 59°; Cape Otway, W.N.W., 40, threatening rain, very high sea, temperature 61°; Melbourne, W.N.W., 18, overcast, temperature 69°; Cape Schanck, W.N.W., 54, strong wind in squalls, rough sea, temperature 65°; Wilson's Promontory, W.N.W., 65, fierce squalls, high sea, temperature 62°; Lakes Entrance, N.W., 23, squally, temperature 76°.

New South Wales.—Menindie, calm, fine but cloudy, temperature 73°; Wentworth, W., 28, fine, temperature 68°; Deniliquin, W., 28, cloudy, temperature 72°; Eden, N.E., 14, fine, but cloudy, smooth sea, temperature 70°; Moruya, S.W., 14, gloomy, smooth sea, temperature 70°; Cape St. George, W., 42, cloudy and dull, smooth sea, temperature 70°; Sydney, W., 7, fine and warm, smooth sea, temperature 77°; Newcastle, N.W., 14, fine, smooth sea, temperature 83°; Port Macquarie, N.E., 14, cloudy and sultry, smooth sea, temperature 83°; Clarence River, N.E., 14, dull, smooth sea, temperature 82°; Dubbo, S.W., 14, fine, but cloudy, temperature 75°; Goulburn, N.W., 14, fine, temperature 68°.

HEIGHT OF RIVERS ABOVE SUMMER LEVEL.

Macintyre: At Mungindi, 16 feet, F. Barwon: At Mogil Mogil, 19 feet 8 inches, F.; at Walgett, 27 feet 6 inches, R. Namoi: At Walgett, 18 feet 8 inches, R. Culgoa: At Goodooga, 5 feet 5 inches, R. Darling: At Brewarrina, 18 feet 4 inches, S.; at Bourke, 30 feet 5 inches, S.; at Louth, 30 feet 4 inches, S.; at Tilpa, 33 feet 11 inches, R.; at Wilcannia, 31 feet 6 inches, S.; at Menindie, 26 feet 1 inch; at Pooncarie, 21 feet 8 inches, R.; at Wentworth, 10 feet 11 inches. Murrumbidgee: At Gundagai, 12 feet, F.; at Wagga, 21 feet 3 inches; at Hay, 9 feet 3 inches; at Balranald, 11 feet 9 inches. Murray: At Albury, 3 feet 9 inches; at Euston, 6 feet.

ASTRONOMICAL MEMORANDA FOR MARCH 25.

Sun rises at 6.8, sets at 6.4; Moon, rises at 6.31 a.m., sets at 6.27 p.m.; Mercury, 5.56 a.m., 5.45 p.m.; Venus, 8.11 a.m., 7.17 p.m.; Mars, 6.43 a.m., 6.29 p.m.; Jupiter, 7.29 p.m., 8.37 a.m.; Saturn, 2.5 p.m., 11.59 p.m. Full moon, 10th; new moon, 25th.

High water at Fort Denison: 8.45 a.m., 9.1 p.m.

H. A. LENEHAN,
Acting Government Astronomer.

Stations.	W	Mx	m	Rs.
Albury ..	b	70	53	0
Armidale	b	76	60	0
Balranald	b	86	46	0
Bathurst	b	73	43	0
Bendem'r	b	80	57	0·12
Bodalla ..	b	71	46	0
Bourke ..	b	86	61	0
Buncarra	c	82	69	0·11
C'md'n H.	b	84	70	0
C. St. Geo.	b	77	58	0
Carcoar ..	b	67	37	0
Casino ..	n	92	71	0
Cassilis ..	b	76	56	0
Clarence ..	c	84	72	0.29
C'nd'b'lin	b	87	45	0
Cooma ..	b	69	44	0
Coonab'n.	b	84	46	0
Cowra ..	b	75	55	0
Cudg'llico	b	85	56	0
Deniliq'n.	b	78	49	0
Dubbo ..	b	81	47	0
Eden ..	b	73	60	0
Euston ..	b	82	47	0
Forbes ..	b	—	65	0
Glen Inn's	g	80	66	0
Goulburn	b	70	47	0

EUCLA

Grafton ..	c	92	70	0·15
Gulgong ..	b	78	41	0
Gunned'h	b	82	62	0
Hay	b	75	50	0
Inverell ..	c	80	66	0
Kiandra ..	c	60	43	0
Lismore ..	b	87	75	0
Maitland .	b	87	61	0
Marsdens.	b	73	58	0
Menindie.	b	77	61	0
Molong ..	b	69	45	0
M'r'ng'r'll	b	72	53	0
Moree ..	b	94	65	0
Moruya ..	b	73	65	0
Moss Vale	h	69	54	0
Mt. Hope	b	81	58	0
M.Vict'ria	b	67	47	0

Mudgee ..	b	87	44	0
M'rr'mb'h	b	75	52	0
M'rr'r'ndi	b	80	59	0
Mus'lbr'k	b	86	54	0
Narrabri	b	89	62	0
Newcastle	b	86	62	0
Orange ..	b	68	46	0
P[illegible]ton ..	b	77	54	0
P. M'q'rie	c	84	68	0
P. St'ph'n	b	82	54	0
Q'nbeyan	b	67	54	0
Quirindi	b	82	62	0
Singleton	b	82	65	0
SYDNEY ..	b	78	59	0
Taralga ..	b	71	47	0
Taree ..	b	89	68	0
T'nt'rfield	g	78	95	0·30
Wagga ..	b	54	45	0
Walcha ..	f	73	52	0
Walgett ..	b	87	61	0
Warrah ..	b	83	—	0
W'ntw'rth	b	81	46	0
W'll'ng'ng	b	81	61	0
Yetman ..	–	—	—	–
Young ..	b	81	46	0

SYDNEY OBSERVATORY,

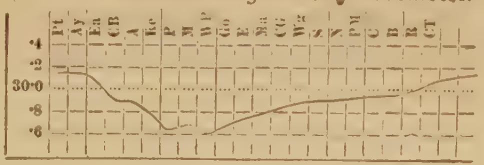
LATITUDE 33° 51' 41" S. LONGITUDE 10h. 4m. 50·51s. E.

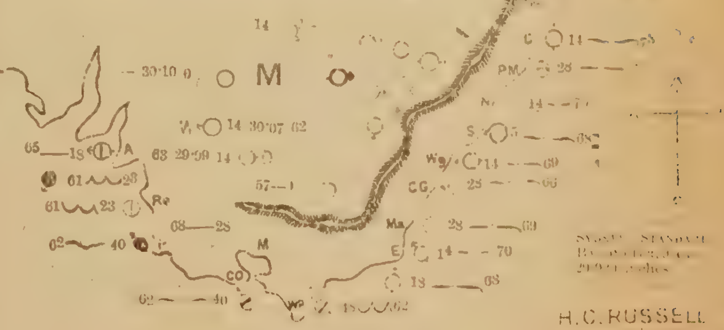
MAGNETIC VARIATION, 9° 35' 37" E.

Average Annual Rainfall for 28 years .... 49·45
Average for 29 years from Jan. 1 to Feb. 28, 1887 ... 9·147
Total Rainfall from Jan. 1, to March [illegible], 1887 ...... [illegible]

Barometers corrected to 32° Fah. and Mean Sea Level

Curve showing state of Barometer.





[illegible] wind N.
[illegible] storm
wind S.
If it is CALM, the [illegible] used without the [illegible]
[illegible] smooth sea
Heavy sea
Very heavy sea.

TIME BALL
[illegible] mean time: 2h. 55m [illegible] with an an time.

H. C. RUSSELL,
Government Astronomer.

NOTES EXPLANATORY OF MAP.

In the list of stations the column headed W. [illegible] the state of the weather at 9 a.m., b standing for blue sky; c, detached clouds; d, drizzling rain; f, fog; g, gloomy; h, hazy; m, misty; n, frosty; o, overcast; p, passing showers; r, rain; s, snow; t, thunder; u, threatening. The next column, Mx gives the maximum temperature for [illegible] hours. M'n the corresponding minimum temperature [illegible] hours. The symbols used in the map are explained on the margin. [illegible] the wind symbol is placed like a vane pointing to the direction from which the wind is coming. A clear circle with it means fine weather; [illegible] weather; and a black spot raining. Next to this symbol are placed figures denoting the number of miles the wind is moving per hour; next, a symbol showing the state of the sea; and, lastly, figures denoting the shade temperature at 9 a.m. The barometer curve shows the state of barometers round the coast from Perth to Cooktown [illegible] Perth; Ay, Albany; Eu, Eucla; CB, Cape Borda; A, Adelaide; [illegible]; M, Melbourne; WP, Wilson's Promontory; Go, Gabo; [illegible]; Ma, Moruya; [illegible] Bay; Wg, Wollongong; S, Sydney; N, Newcastle; PM, Port Macquarie; C, Clarence River; B, Brisbane; R, Rockhampton; Ct, Cooktown. Inland the state of barometer is given in figures at Albury, Deniliquin, Wentworth, Menindie, Bourke, [illegible] Springs. The barometer curve enables one at a glance to trace the depressions, beginning with Western Australia, and passing along eastwards; northerly winds preceding them, and southerly following.

9 A.M. OBSERVATIONS.

Western Australia.—Generally cloudy and gloomy, with light variable winds, slightly fallen barometers, and smooth sea. Rainfall: 0·02 inch at Geraldton. Extremes of barometers and temperature: Albany, 30·23; Cossack, 29·90 and 82°; Esperance Bay 61°.

South Australia.—Generally unsettled south of Port Augusta, with light to fresh W. to S.W. winds, fallen barometers, and rough sea. Light rain has fallen over Mount Lofty ranges and on parts of the coast. Heaviest at Crafers and Lobethal, 0·21 and 0·20 inches respectively. Extremes of barometers and temperature: Farina, 30·14; Port Darwin, 29·83 and 85°; M'Donnell Bay, 59°.

Victoria.—Generally more or less cloudy and squally, with misty rain falling at Portland, strong N.W. to W. winds, fallen barometers, and moderate to rough sea. Fierce squalls at Wilson's Promontory; 0·23 inch rain fallen at Portland. Extremes of barometers and temperature: Echuca, 29·87; Wilson's Promontory, 29·56; Horsham, 67°; and Ballarat, 58°.

Tasmania.—Showery and squally in N.E. and E. parts, with strong N.W. winds, and rough sea. Rainfall: Hobart 0·33; and Low Head, 0·21 inches. Barometer at Low Head, 29.42, and temperature 61°.

New Zealand.—Fine and calm extreme north; gloomy, with N. to N.W. winds, over centre and on the W. coast. Barometers: Russell, 30·2; Wellington, 29·9; and Bluff, 29·4.

New South Wales.—Generally fine and warm, with clouds in N.E. parts, light variable winds tending to west), fallen barometers, and smooth sea. Light rain has fallen at a few places in North coast districts. Extremes of barometers and temperature: Wentworth, 30·10; Eden, 29·70; Lismore, 76°; and Kiandra, 51. For further particulars see map.

Queensland.—Fine and warm inland, cloudy and gloomy on the coast, and showery at Cooktown; light N.E. to S.E. winds, fallen barometers and smooth to moderate sea. Thunder and lightning during the night at Bonlia, Roma, and Cape Moreton. Rainfall: Brisbane, 2·70; Cooktown, 1·09; Roma, 1·07; Blackall, 0.38; and Bonlia, 0·02 inches. Extremes of barometers and temperature: Cooktown, 30·06 and 88°; Cape Moreton, 29·91; and Roma, 73°.

3 P.M. OBSERVATIONS.

Victoria.—Portland, W., 56, passing showers, temperature 61°; Cape Otway, N.W., 40, squally, slight sea, temperature 62°; Melbourne, N.N.W., 23, cloudy and gloomy, temperature 69°; Cape Schanck, W.N.W., 28, overcast and misty, rough sea, temperature 65°; Wilson's Promontory, W.N.W., 48, overcast and misty, high sea, temperature 63°; Lakes Entrance, N.W., 23, fine and squally, temperature 80°.

New South Wales.—Menindie, W., fine, temperature 72°; Wentworth, W., fine, temperature 67°; Deniliquin, N.W., 14, fine, temperature 75°; Eden, N.E., fine, smooth sea, temperature 75; Cape St. George, calm, fine, smooth sea, temperature 75°; Sydney, N.E., 16, fine, temperature 67°; Newcastle, N.W., 28, fine, smooth sea, temperature 80°; Port Macquarie, S.E., 14, fine, smooth sea, temperature 82°; Clarence River, S., 14, cloudy, smooth sea, temperature 80°; Walgett, calm, fine, temperature 78°; Dubbo, W., fine, temperature 72°; Goulburn, N.W., fine, temperature 69°.

Queensland.—Brisbane, calm, temperature 82°; Cooktown, S.E., showery, moderate sea, temperature 79°; Townsville, S.E., fine and clear, temperature 84°; Roma, N.E., 8, overcast, temperature 76°; Cape Moreton, N.N.E., 15, cloudy, temperature 80°; Rockhampton; E.N.E., fine, cloudy, temperature 85°.

HEIGHT OF RIVERS ABOVE SUMMER LEVEL.

Macintyre: At Mungindi, 15 feet. Barwon: At Mogi Mogil, 19 feet; at Walgett, 28 feet. Namoi: At Walgett, 10 feet 4 inches. Culgoa: At Goodooga, 5 feet 7 inches. Darling: At Brewarrina, [illegible] in[illegible]hes; at Bourke, 30 feet [illegible] inches; at Louth, 30 feet [illegible]; at Tilpa, 31 feet; at Wilcannia, 31 feet 6 inches; at M[illegible]die, 26 feet 2 inches; at Pooncarie, 21 feet 9 inches; at Wentworth, 11 feet 2 inches. Murrumbidgee: At Gundagai, 11 feet 3 inches; at Wagga, 12 feet 9 inches; at Hay, 9 feet 1 inch; at Balranald, 11 feet 10 inches. Murray: At Albury, 3 feet 3 inches; at Euston, 5 feet 10 inches.

ASTRONOMICAL MEMORANDA FOR MARCH 2[illegible].

Sun rises at 6.9, sets at 6.2; Moon, rises at 7.21 a.m., sets at 6.58 p.m.; Mercury, 5.36 a.m., 5.31 p.m.; Venus, 8.3[illegible] a.m., 7.15 p.m; Mars, 6.42 a.m., 6.25 p.m.; Jupiter, 7.21 p.m., 8.29 a.m.; Saturn, 1.57 p.m., 11.51 p.m. Full moon, 10th; new moon, 25th.

High water at Fort Denison: 9.18 a.m., 9.34 p.m.

H. A. LENEHAN,
Acting Government Astronomer.

Stations	W.T.	Max	Min	Rain
Albury	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Balranald	[illegible]	[illegible]	[illegible]	0
Bathurst	r	74	44	0
Bendem'r	r	77	53	0·03
Bodalla	g	78	52	0·02
Bourke	c	82	68	0
Bungarra	c	80	64	0·05
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Car[illegible]	u	[illegible]	[illegible]	[illegible]
Ca[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Ca[illegible]	o	[illegible]	[illegible]	[illegible]
Clarence	r	82	71	0·90
C'nd'b'lin	c	91	36	0
Cooma	c	72	48	0
Coonab[illegible]	[illegible]	[illegible]	[illegible]	0
Cowra	u	83	52	0
Cudg'llico	u	79	61	0
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	0
[illegible]	[illegible]	[illegible]	[illegible]	0
[illegible]	[illegible]	[illegible]	[illegible]	0
[illegible]	b	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	59	39	0
Graf[illegible]	r	[illegible]	[illegible]	[illegible]
G[illegible]	u	[illegible]	[illegible]	[illegible]
G[illegible]	c	73	65	0
Hay	b	75	46	0
Inverell	u	79	62	0·02
Kiandra	n	60	28	0·03
Lismore	r	77	73	2·60
Maitland	u	85	62	0·30
Marsdens	b	79	52	0
Menindie	b	72	54	0
Molong	g	64	44	0
M'r'ng'r'll	c	75	53	0
Moree	r	78	68	0·08
Moruya	b	67	58	0
Moss Vale	u	58	52	0·10
Mt. Hope	b	81	56	0
M. Vict'ria	r	67	45	0·27
Mudgee	g	79	51	0·02
M'rr'mb'h	u	74	47	0
M'rr'rudi	o	75	59	0
Mus'lbr'k	u	71	[illegible]	0·17
Narrabri	u	[illegible]	[illegible]	[illegible]
Newcastle	g	79	[illegible]	0·35
Orange	c	[illegible]	[illegible]	0·01
[illegible]ton	o	[illegible]	[illegible]	0
P. M'q'rie	r	70	66	1·05
P. St'ph'n	u	[illegible]	[illegible]	0·11
[illegible]bevan	[illegible]	74	50	0
[illegible]wind[illegible]	u	[illegible]	62	0
Singleton	g	80	64	0·08
SYDNEY	o	69	61	0·06
Taralga	–	—	—	0
Taree	r	79	68	0·51
T'nt'rfield	u	82	61	0·33
Wagga	b	77	39	0
Walcha	u	75	60	0·07
Walgett	g	86	67	0
Warrah	g	80	—	0
W'ntw'rth	b	76	48	0
W'll'ng'ng	c	64	60	0
Yetman	–	—	—	0
Young	u	83	40	0

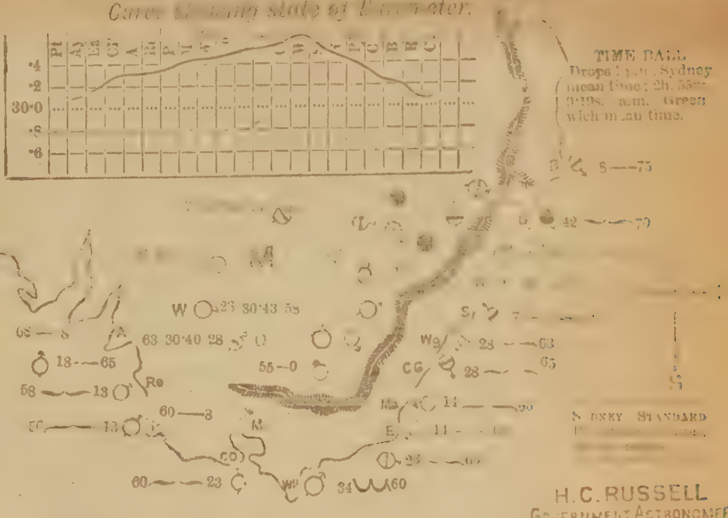
SYDNEY OBSERVATORY.

[illegible] 47" S. [illegible]

MAGNETIC VARIATION, 9° 35' 37" E.

Average Annual Rainfall for 28 years [illegible]
Average for 29 years from Jan. 1 to Feb. 28, 1887 .... 9·117
Total Rainfall from Jan. 1 to March 23, 1887 .... 13·549
Barometers corrected to 32 Fah. and Mean Sea Level

If it is calm, the symbol is used without the arrow.
— Smooth sea.
〰 Heavy sea.
Very heavy sea.



TIME BALL.
Drops [illegible] Sydney mean time; 2h. 55m. 0·19s. a.m. Greenwich mean time.

SYDNEY STANDARD [illegible]

H. C. RUSSELL,
GOVERNMENT ASTRONOMER.

NOTES EXPLANATORY OF MAP.

In the list of stations the column headed W.T. gives the state of the weather at 9 a.m., b standing for blue sky; c, detached clouds; d, drizzling rain; f, fog; g, gloomy; h, hazy; m, misty; n, frosty; o, overcast; p, passing showers; r, rain; s, snow; t, thunder; u, [illegible] M'n the corresponding minimum temperature; r'n, the rain for the previous 24 hours. The symbols used in the map are explained on the margin. At each coast station the wind symbol is placed like a vane pointing to the direction from which the wind is [illegible]. A clear circle with it means fine weather; a circle with bar, cloudy weather; and a black spot, raining. Next to this symbol are placed figures denoting the number of miles the wind is moving per hour; next, a symbol showing the state of the sea; and, lastly, figures denoting the shade temperature at 9 a.m. The barometer curve shows the state of barometers round the coast from Perth to Cooktown:—Pt, Perth; Ay, Albany; Ea, Eucla; CB, Cape Borda; A, Adelaide; Re [illegible]; M, Melbourne; W P, Wilson's Promontory [illegible]; Bay; Wg, Wollongong; [illegible] N, Newcastle [illegible]; River; B, Brisbane; R, [illegible] is given in figures at Albury, [illegible] Springs. The barometer [illegible] beginning with Western [illegible] northerly winds preceding them, and southerly [illegible].

Western Australia.—In south parts overcast, gloomy, and threatening with light south winds and calms, risen barometers, and smooth sea. Extremes of barometers and temperature: Perth, 30·14 and 65°; Esperance Bay, 30·11 and [illegible]. No reports from W. coast.

South Australia.—Generally fine and pleasant, with light N.E. winds and calm, risen barometers, and smooth to moderate sea. Extremes of barometers and temperature: Robe, 30·33 and 58°; Port Darwin, 29·81 and 85°.

Victoria.—Generally fine and cool, with light north to east winds, rising barometers, and moderate to rather rough sea. Rainfall: Ballarat, 0·02, and Portland, 0·01 inches. Extremes of barometers and temperature: Omeo, 30·47 and 53°; Horsham, 30·35 and 65°.

Tasmania.—Generally fine and cool, with light clouds in north parts, risen barometers and smooth sea. Extremes of barometers and temperature: Low Heads, 30·54; Circular Head, 30·47 and 61°; Southport, 50°.

New Zealand.—Generally fine, with W. to S.W. winds and rough sea; showery and squally on the West Coast yesterday.

New South Wales.—Fine, clear, and cool in south and west parts; overcast and gloomy in north, with rain falling in places near the coast and along the range; light to fresh N.E. to S.E. winds, rather strong along the north coast, very high barometers, and smooth to moderate sea. Frosty and foggy at Kiandra. Rain has fallen in N.E. ports, heaviest on the Richmond River. Extremes of barometers and temperature: Wollongong, 30·62, Clarence, 30·33, Lismore 74°, and Kiandra 45°. For further particulars see map.

Queensland.—Fine in north, cloudy and unsettled in south parts, with light S.E. to E. winds, risen barometers, and moderate sea. Heavy showers at Townsville and Rockhampton. Rainfall: Townsville, 5·30; Cooktown, 2·2[illegible]; Rockhampton, [illegible]; 2·15; and Brisbane, 1·34 inches. Extremes of barometers and temperature: Brisbane, 30·26; Normanton, 29·[illegible]; Cooktown, 87°; and Roma, 74°.

3 P.M. OBSERVATIONS.

Victoria.—Portland, S., 18, fine, smooth sea, temperature 67°; Cape Otway, E.N.E., 18, cloudy, smooth sea, temperature 68°; Melbourne, N., 13, fine but cloudy, temperature 81°; Cape Schanck, E.S.E., 13, fine but cloudy, smooth sea, temperature 64°; Wilson's Promontory, N.E., 23, fine, squally, moderate sea, temperature [illegible]; Lakes Entrance, E., 23, cloudy, temperature 71°.

New South Wales.—Menindie, calm, fine, temperature 74°; Wentworth, N.E., 14, fine, temperature 70°; Deniliquin, calm, fine and clear, temperature 76°; Eden, N.E., 28, fine but cloudy, smooth sea, temperature 68°; Moruya, N.E., 28, overcast and dull, smooth sea, temperature 69°; Cape St. George, N.E., 42, cloudy, smooth sea, temperature 67°; Sydney, N.E., 9, overcast and dull, moderate sea, temperature [illegible]; Newcastle, E., 14, dull, smooth sea, temperature 70°; Port Macquarie, S.E., 28, thick haze, smooth sea, temperature 72°; Clarence River, S.E., 28, raining, moderate, 72°; Dubbo, E., 14, fine but cloudy, temperature 70°; Goulburn, N.E., 14, dull, temperature 62°.

HEIGHT OF RIVERS ABOVE SUMMER LEVEL.

Macintyre: At Mungindi, 17 feet 6 inches. Barwon: At Mogil Mogil, 17 feet; at Walgett, 28 feet 8 inches. Namoi: At Walgett, 19 feet 10 inches. Culgoa: At Goodooga, 5 feet 10 inches. Darling: At Brewarrina, 18 feet 9 inches; at Bourke, 29 feet 6 inches; at Louth, 30 feet 4 inches; at Tilpa, 34 feet 5 inches; at Wilcannia, 31 feet; at Menindie, 25 feet 3 inches; at Pooncarie, 22 feet; at Wentworth, 11 feet 3 inches. Murrumbidgee: At Gundagai, 6 feet 4 inches; at Wagga, 7 feet; at Hay, 8 feet 1 inch; at Balranald, 11 feet 9 inches. Murray: At Albury, 2 feet 4 inches; at Euston, 6 feet 3 inches.

ASTRONOMICAL MEMORANDA FOR MARCH 29.

Sun rises at 6.11, sets at 5.58; Moon, 10.7 [illegible] 8.43 p.m.; Mercury, 5.10 a.m., 5.14 p.m.; Venus, [illegible] a.m., 7.14 p.m.; Mars, 6.41 a.m., 6.19 p.m.; Jupiter, 7.8 p.m., 8.16 a.m.; Saturn, 1.46 p.m., 11.40 p.m. Full moon, 10th; new moon, 25th.

High water at Fort Denison, March 29: 10.5[illegible] a.m., 11.[illegible] p.m.

H. A. LENEHAN,
Acting Government Astronomer.

Stations.	W.	Mx	Mn	Rn
Albury ..	g	74	55	0
Armidale	-	—	—	-
Balranald	g	99	54	0
Bathurst	c	63	49	0·01
Bendem'r	c	70	60	0·13
Bodalla ..	b	76	50	0
Bourke ..	c	76	66	0
Bungarra	-	—	—	-
C'md'n H.	c	74	66	0·23
C. St. Geo.	b	72	67	0
Carcoar ..	g	62	42	0
Casino ..	-	—	—	-
Cassilis ..	o	67	60	0·15
Clarence .	u	75	70	1·84
C'nd'b'lin	r	82	46	0·08
Cooma ..	c	79	52	0
Coonab'n.	u	70	57	0·23
Cowra ..	c	80	57	0
Cudg'llico	r	74	61	0·03
Deniliq'n.	g	90	57	0
Dubbo ..	b	73	62	0
Eden	b	68	57	0
Euston ..	c	96	55	0
Forbes ..	u	—	60	0·11
Glen Inn's	g	62	57	0
Goulburn	g	64	51	0
Grafton ..	g	88	67	0·33
Gulgong .	c	68	53	0
Gunned'h	n	73	62	0·30
Hay	r	83	68	0
Inverell ..	c	78	66	0
Kiandra ..	f	69	37	0
Lismore. .	r	76	52	0·10
Maitland .	g	76	62	0
Marsdens.	c	71	61	0
Menindie.	u	84	61	0
Molong ..	u	63	52	0
M'P'ng'r'll	u	66	61	0
Moree ..	g	81	67	0·07
Moruya ..	b	77	56	0
Moss Vale	b	61	55	0
Mt. Hope	r	73	62	0
M. Vict'ria	u	57	47	0·10
Mudgee ..	u	70	53	0
M'rr'mb'h	-	—	—	-
M'rr'r'ndi	o	66	60	0·17
Mus'lbr'k	g	73	57	0
Narrabri	u	72	64	0·06
Newcastle	b	73	64	0·01
Orange ..	c	62	53	0
Picton ..	c	61	55	0·02
P M'q'rie	g	72	64	0·53
P St'ph'n	g	74	60	0
Q'nbeyan	g	64	56	0
Quirindi	o	70	58	0·18
Singleton	c	63	61	0
Sydney ..	c	70	62	0
Taralga ..	b	69	50	0·05
Taree ..	r	72	65	0·09
T'nt'rfield	g	68	60	0·60
Wagga ..	u	79	54	0
Walcha ..	u	58	52	0·30
Walgett ..	u	73	66	0·28
Warrah ..	-	—	—	-
W'ntw'rth	u	91	58	0
W'll'ng'ng	c	70	62	0
Yetman ..	-	—	—	-
Young ..	u	71	59	0

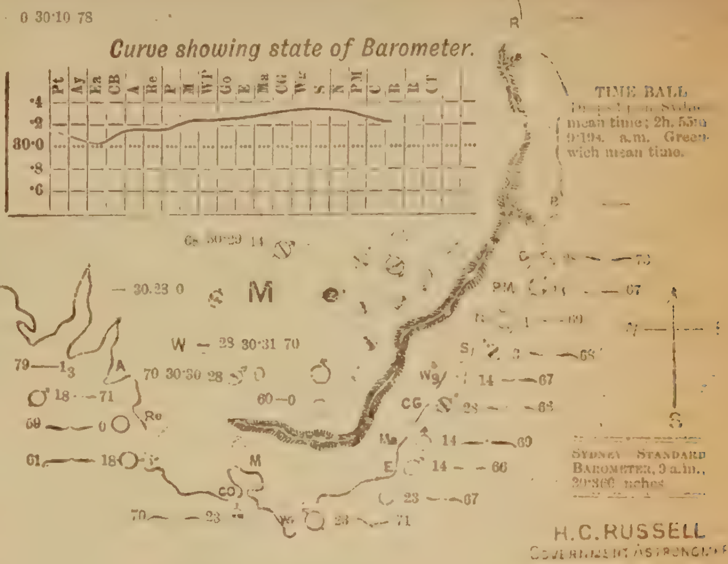
SYDNEY OBSERVATORY.

Latitude 33° 51' 41" S. Longitude 10h. 4m. 50·51s. E.

Magnetic Variation, 9° 35' 37" E.

Average Annual Rainfall for 28 years .... 49·489
Average for 29 years from Jan. 1 to Feb. 28, 18·7 .... 9·147
Total Rainfall from Jan. 1. to March 29, 1887 ...... 13·513

Barometers corrected to 32° Fah. and Mean Sea Level



Fine. Cloud. T. storm.

If it is ...

TIME BALL

Dropped at Sydney mean time; 2h. 55m 9·19s. a.m. Greenwich mean time.

SYDNEY STANDARD BAROMETER, 9 a.m., 29·860 inches

H. C. RUSSELL
Government Astronomer

NOTES EXPLANATORY OF MAP.

In the list of stations the column headed W. T. gives the state of the weather at 9 a.m., b standing for blue sky; c, detached clouds; d, drizzling rain; f, fog; g, gloomy; h, hazy; m, misty; n, frosty; o, overcast; p, passing showers; r, rain; s, snow; t, thunder; u, threatening. The next column, M'x gives the maximum temperature in previous 24 hours. M'n the corresponding minimum temperature; r'n, the rainfall in previous 24 hours. The symbols used in the map are explained on the map. At each station the wind symbol is placed like a vane pointing to the direction from which the wind is coming. A clear circle with it means fine weather, a circle with bar, cloudy weather; and a black spot, raining. Next to this symbol are placed figures denoting the number of miles the wind is moving per hour; next, a symbol showing the state of the sea; and, lastly, figures denoting the shade temperature at each station. The barometer curve shows the state of barometers round the coast from Perth to Cooktown. Pt, Perth; Ay, Albany; Es, Eucla; CB, Cape Borda; A, Adelaide; Re, Robe; P, Portland; M, Melbourne; WP, Wilson's Promontory; Co, Gabo; E, Eden; Ms, Moruya; CG, Crowdy Bay; Wg, Wollongong; S, Sydney; N, Newcastle; PM, Port Macquarie; C, Clarence River; B, Brisbane; R, Rockhampton; Ct, Cooktown. Inland the state of barometer is given in figures at Albury, Deniliquin, Wentworth, Menindie, Bourke, and Alice Springs. The barometer curve enables one at a glance to see the isobars, beginning with Western Australia, and passing along eastwards; northerly winds preceding them, and southerly following.

Western Australia.—Fine and hot along the west coast, overcast and gloomy in south, with light rain falling at Albany; light S.E. to S.W. winds, fallen barometers, and moderate sea; half an inch of rain fallen at Esperance Bay. Extremes of barometers and temperature:—Perth, 30·17 and 63°; Ashburton, 29·90; and Carnarvon, 81°.

South Australia.—Generally fine and warm, with scattered clouds in parts north of Crystal Brook; light N. to N.E. winds and calms, fallen barometers, and smooth sea. Extremes of barometers and temperature: Adelaide, 30·15; Port Darwin, 29·81 and 86°; Robe, 59°.

Victoria.—Generally fine and warm, with light to fresh N. and E. winds, fallen barometers, and smooth sea. Heavy dew fallen along the coast. Extremes of barometers and temperature: Melbourne, 30·24 and 75°; Hamilton, 30·14; and Portland, 61°.

Tasmania.—Generally more or less cloudy, with light variable winds and calms, fallen barometers, and smooth to moderate sea. Extremes of barometers and temperature: Low Heads, 30·23°; Southport, 30·16°; Circular Head, 62°; and Hobart, 56°.

New Zealand.—Generally fine, with southerly winds, and barometers at 30·2 inches.

New South Wales.—Generally cloudy and gloomy, with light rain falling at scattered places in west parts and north coast districts; fine in south coast districts. Winds are light from N.E. to S.E., with calms in places. Barometers have fallen, and the sea is smooth to moderate. Light rain has fallen in north-east parts; heaviest on the Clarence. Extremes of barometers and temperature: Clarence, 30·26 and 73°; Sydney and Wollongong, 30·37; and Cooma, 53°. For further particulars see map.

Queensland.—Generally gloomy and overcast, with rain at Brisbane, Cooktown, and Mackay. Heavy thunderstorms last night at Normanton and Boulia. Extremes of barometers and temperature: Roma and Brisbane, 30·21; Normanton, 29·86, temperature 86°; Brisbane, 71°.

3 P.M. OBSERVATIONS.

Victoria.—Portland, S.E., 13, fine and clear, smooth sea, temperature 73°; Cape Otway, E.S.E., 13, fine and clear, smooth sea, temperature 75°; Melbourne, E.N.E., 13, fine and clear, temperature 81°; Cape Schanck, N.N.E., 13, fine but cloudy smooth sea, temperature 71°; Wilson's Promontory, N.E., 8, sultry, smooth sea, temperature 77°; Lakes Entrance, S.E., 13, fine, but cloudy, temperature 74°.

New South Wales.—Menindie, calm, cloudy, like rain, temperature 75°; Wentworth, N.W., 14, cloudy and dull, temperature 70°; Deniliquin, calm, dull, temperature 74°; Eden, N.E., 28, fine, smooth sea, temperature 72°; Moruya, N.E., 23, fine, smooth sea, temperature 73°; Cape St. George, N.E., 42, fine, but cloudy, smooth sea, temperature 70°; Sydney, N.N.E., 9, overcast and misty, smooth sea, temperature 71°; Newcastle, S.E., 14, fine, smooth sea, temperature 72°; Port Macquarie, S.E., 14, cloudy, moderate sea, temperature 78°; Clarence River, S.E., 7, moderate sea, 76°; Walgett, calm, cloudy and dull, temperature, 79°; Dubbo, calm, fine but cloudy, temperature 77°, Goulburn, calm, fine, temperature 67°.

Queensland.—Roma, E., 13, cloudy, temperature 82°; Townsville, S.E., 18, fine and clear, smooth sea, temperature 83°.

HEIGHT OF RIVERS ABOVE SUMMER LEVEL.

Macintyre: At Mungindi, 13 feet. Barwon: At Mogil Mogil, 16 feet; at Walgett, 28 feet 6 inches. Namoi: At Walgett, 20 feet 2 inches. Culgoa: At Goodooga, 6 feet. Darling: At Brewarrina, 18 feet 9 inches; at Bourke, 29 feet 5 inches; at Louth, 30 feet 3 inches; at Tilpa, 34 feet 6 inches; at Wilcannia, 31 feet 6 inches; at Menindie, 25 feet 3 inches.; at Wentworth, 11 feet 4 inches. Murrumbidgee: At Gundagai, 5 feet; at Wagga, 6 feet 3 inches; at Hay, 8 feet 10 inches; at Balranald, 11 feet 5 inches. Murray: At Albury, 2 feet 3 inches; at Euston, 6 feet 4 inches.

ASTRONOMICAL MEMORANDA FOR MARCH 30.

Sun rises at 6.12, sets at 5.57; Moon, 11.3 a.m., 9.25 p.m.; Mercury, 5.10 a.m., 5.14 p.m.; Venus, 8.22 a.m., 7.14 p.m; Mars, 6.41 a.m., 6.19 p.m.; Jupiter, 7.8 p.m., 8.16 a.m.; Saturn, 1.46 p.m., 11.40 p.m. Full moon, 10th; new moon, 25th.

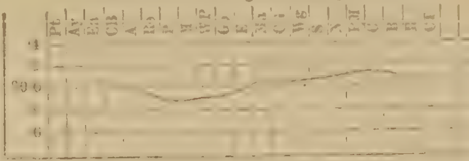
High water at Fort Denison, March 30: 11.35 a.m., 11.55 p.m.

H. A. LENEHAN,
Acting Government Astronomer.

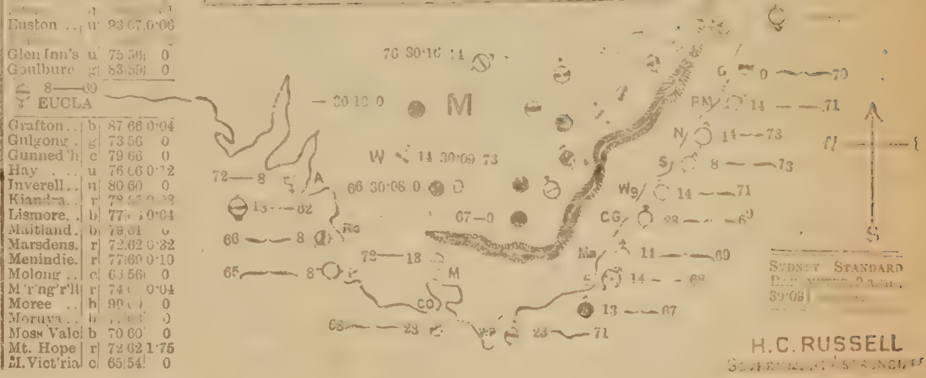
LATITUDE 33° 51' 41" S. LONGITUDE 151°.
MAGNETIC VARIATION, 9° 35' 37" E.

Average for 20 years from Jan. 1 to Feb. 23, 1887 .... 9·147
Total Rainfall from Jan. 1, to March 30, 1887 ...... 13·515
Barometers corrected to 32° Fah. and Mean Sea Level

Curve showing state of Barometer.



Bungarra	b	81 62	0
C'nd'n H.			
C. St. Geo.	b	74 63	0
Carcoar	o	68 48	0
Casino	–	— —	–
Cassilis	c	70 63	0
Euston	u	93 67	0·06
Glen Inn's	u	75 56	0
Goulburn	g	83 56	0
Grafton	b	87 66	0·04
Gulgong	g	73 56	0
Gunned'h	c	79 66	0
Hay	u	76 66	0·12
Inverell	u	80 60	0
Kiandra	r	78 [illegible]	0·33
Lismore	b	77 [illegible]	0·04
Maitland	b	79 61	0
Marsdens	r	72 62	0·32
Menindie	r	77 69	0·10
Molong	c	63 56	0
M'r'ng'r'li	r	74 [illegible]	0·04
Moree	h	90 [illegible]	0
Moruya	b	[illegible]	0
Moss Vale	b	70 60	0
Mt. Hope	r	72 62	1·75
M. Vict'ria	c	65 54	0



Mudgee	u	80 56	0
M'rr'mb'h	r	81 62	0·11
M'rr'r'ndi	b	68 61	0
Mus'lbr'k	g	80 57	0
Narrabri	b	[illegible]	0
Newcastle	b	75 69	0
Orange	g	68 57	0
Picton	o	74	0
P. M'q'rie	b	79 65	0
P. St'ph'n	b	78 62	0
Q'nbeyan	u	70 57	0
Quirindi	g	77 61	0
Singleton	b	70 64	0
SYDNEY	b	71 64	0
Tamw'rth	c	82 64	0
Taralga	g	80 55	0
Tenterfield	g	76 65	0
T'nt'rfield	–	— —	–
Wagga	r	75 59	0·35
Walcha	o	69 52	0·01
Walgett	g	81 68	0
Warialda	b	77 —	0
Wentw'rth	u	91 58	0·07
Wil'ng'ng	b	75 68	0
Young	r	86 62	0·22

NOTES EXPLANATORY OF MAP.

In the list of stations the column headed W.T. gives the state of the weather at 9 a.m., b standing for blue sky; c, detached clouds; d, drizzling rain; f, fog; g, gloomy; [illegible]; m, misty; n, frosty; o, overcast; p, passing showers; r, rain; s, snow; t, thunder; u, threatening. The next column M'x gives the maximum temperature for previous 24 hours. M'n the corresponding minimum temperature; R'n, the rain for the previous 24 hours. The symbols used in the map are explained on the margin. At each station the wind symbol is placed like a vane pointing to the direction from which the wind is coming. A clear circle with it means fine weather; a circle with bar, cloudy weather; and a black spot, raining. Next to this symbol are placed figures denoting the number of miles the wind is moving per hour; next, a symbol showing the state of the sea; and, lastly, figures denoting the shade temperature at 9 a.m. The barometer curve shows the state of barometers round the coast from Perth to Cooktown:—Pt, Perth; Ay, Albany; Ea, Eucla; CB, Cape Borda; A, Adelaide; Re, Robe; P, Portland; M, Melbourne; WP, Wilson's Promontory; Go, Gabo; E, Eden; Ma, Moruya; CG Jervis Bay; Wg, Wollongong; S, Sydney; N, Newcastle; PM, Port Macquarie; C, Clarence River; B, Brisbane; R, Rockhampton; Ct, Cooktown. Inland the state of barometer is given in figures at Albury, Deniliquin, Wentworth, Menindie, Bourke, and Alice Springs. The barometer curve enables one at a glance to trace the depressions; beginning with Western Australia, and passing along eastwards; northerly winds preceding them, and southerly following.

9 A.M. OBSERVATIONS.

Western Australia.—Generally fine, with light S.E. to S.W. winds and calms, almost steady barometers, and smooth to moderate sea. Extremes of barometers and temperature: Esperance Bay, 30·17 and 55°; Cossack, 29·88 and 85°.

South Australia.—Generally overcast and gloomy, and in parts sultry, south of Hergott, with light variable winds and calms, fallen barometers, and smooth sea. Light rain has fallen between Hallet and Hergott, the heaviest being 0·14 inch at Hawkes. Extremes of barometers and temperature: Farina, 30·11; M'Donnell Bay, 29·92 and 62°; Adelaide, 72°. No reports from Northern Territory.

Victoria.—Generally cloudy, with light N. to W. winds, fallen barometers, and smooth sea. Lightning to N. at Cape Otway. Squally at Wilson's Promontory. Extremes of barometers and temperature: Echuca, 30·04; Wilson's Promontory, 29·90; Melbourne, 72°; and Omeo, 65°.

Tasmania.—Generally cloudy and gloomy, with light N.E. to N.W. winds, falling barometers, and moderate sea; 0·01 inch rain fallen at Low Heads. Extremes of barometers and temperature: Low Heads, 29·89; Southport, 29·70; Falmouth, 70°; and Hobart, 61°.

New Zealand.—In extreme north calm and fine, with the barometer at 30·2 inches; fine, with S. wind at Wellington; overcast, with W. wind at Bluff; barometers at 30·1.

New South Wales.—Fine along the coast, cloudy and gloomy over the remainder of the colony, with more or less heavy rain falling in the watersheds of the Upper Murray, Murrumbidgee, and Lachlan rivers, and at Menindie; light N.E. to N.W. winds and calms, falling barometers, and smooth sea. Rain has fallen in south parts, principally west of the ranges, and heaviest on the Lachlan. Extremes of barometers and temperature: Clarence, 30·18; Gabo Island, 29·94; Bourke, 76°; and Kiandra, 58°. For further particulars see map.

Queensland.—Cloudy and unsettled in coast districts, with light showers at Cooktown and Mackay, fine and clear inland; light N.E. to S.E. winds, fallen barometers, and the sea moderate, but rough off Cooktown. Rainfall: Brisbane, 0·72; Cape Moreton, 0·20; Mackay, 0·14; Rockhampton, 0·07; and Townsville, 0·01 inch. Extremes of barometers and temperature: Rockhampton, 30·07; Townsville, 29·98; Cooktown, 81°; and Brisbane, 72°.

3 P.M. OBSERVATIONS.

Victoria.—Portland, S.W., 15, overcast, smooth sea, temperature 63°; Cape Otway, W.N.W., 23, threatening, smooth sea, temperature 64°; Melbourne, S., 13, fine but cloudy, temperature 71°; Cape Schanck, S.S.W., 8, fine but cloudy and hazy, smooth sea, temperature 70°; Wilson's Promontory, W., 13, cloudy, gloomy, and squally, smooth sea, temperature 72°; Lakes Entrance, N.W., 1, overcast and sultry, temperature 75°.

New South Wales.—Menindie, calm, muggy, like rain, temperature 77°; Wentworth, N.W., 14, overcast and dull, temperature 73°; Deniliquin, calm, dull and showery, temperature 73°; Moruya, N.E., 14, raining, moderate sea, temperature 74°; Sydney, N.E., 9, cloudy and gloomy, smooth sea, temperature 73°; Newcastle, N.E., 14, fine, smooth sea, temperature 79°; Port Macquarie, N.E., 14, fine, moderate sea, temperature 78°; Clarence River, S.E., 14, fine, smooth sea, temperature 78°; Walgett, N.N.W., cloudy, temperature, 82°; Dubbo, N., showery, temperature 73°; Goulburn, N., 14, showery, temperature 68°. Heavy rain in Tweed district; 15 inches in 12 hours; 18 inches in last 48 hours.

Queensland.—Rockhampton, S.E., 18, cloudy, temperature 80°; Roma, E.S.E., 8, cloudy, temperature 81°; Cape Moreton, S.E., 28, cloudy, temperature 74°; Brisbane, S.S.E., 13, cloudy, temperature 76°; Cooktown, S.E., fine, clear, rough sea, temperature 82°.

HEIGHT OF RIVERS ABOVE SUMMER LEVEL.

Macintyre: At Mungindi, 17 feet. Barwon: At Mogil Mogil, 16 feet 6 inches; at Walgett, 27 feet 4 inches. Namoi: At Walgett, 20 feet 6 inches. Culgoa: At Goodooga, 6 feet 2 inches. Darling: At Brewarrina, 18 feet 6 inches; at Bourke, 29 feet 3 inches; at Louth, 30 feet 1 inch; at Tilpa, 34 feet 5 inches; at Wilcannia, 31 feet 10 inches; at Menindie, 25 feet 4 inches; at Pooncarie, 22 feet 1 inch; at Wentworth, 11 feet 4 inches. Murrumbidgee: At Gundagai, 4 feet 6 inches; at Wagga, 5 feet 6 inches; at Hay, 9 feet 3 inches; at Balranald, 11 feet 9 inches. Murray: At Albury, 2 feet 7 inches; at Euston, 6 feet 4 inches.

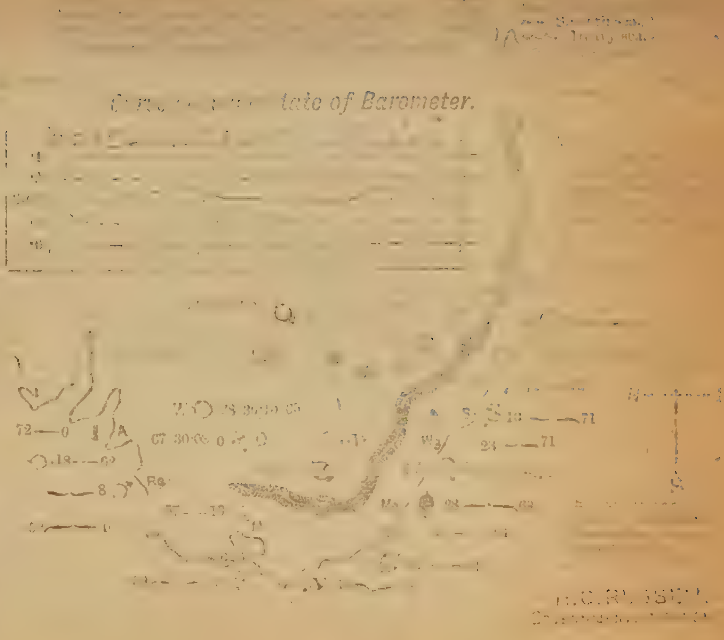
ASTRONOMICAL MEMORANDA FOR MARCH 31.

Sun rises at 6.13, sets at 5.55; Moon rises at 11.57 a.m., sets at 10.11 p.m.; Mercury, 4.57 a.m., 5.6 p.m.; Venus, 8.26 a.m., 7.13 p.m.; Mars, 6.40 a.m., 6.15 p.m.; Jupiter, 7.0 p.m., 8.7 a.m.; Saturn, 1.36 p.m., 11.32 p.m. Full moon, 10th; new moon, 25th.

High water at Fort Denison, March 31: — a.m., 12.12 p.m.

H. A. LENEHAN,
Acting Government Astronomer.

[illegible]		91		0·85
[illegible]		81	61	0
Cassilis ..				
Coonab'n.				
Eden				
Glen Inn's				
Goulburn	u	63	61	



Gulgong .	c	64	50	0·15
Gunned'h	c	81	49	0
Hay	u	77	66	0·15
Inverell ..	b	78	60	0
Kiandra ..	g	65	55	1·05
Lismore ..	r	77	67	[illegible]
Maitland .	c	83	63	0
Marsdens.	g	72	39	1·04
Menindie.	u	78	70	0·56
[illegible]	o		[illegible]	[illegible]
M'r'ng'	u	7	67	0·56
Moree ..	b	93	63	0
[illegible]	r	[illegible]	[illegible]	0·07
Moss Vale	r	70	60	0·21
Mt. Hope	n	76	65	1·10
M. Vict'ria	c	63	58	0·10
Mudgee ..	r	75	59	[illegible]
M'rr'mb'h	c	66	62	0·47
M'rr'r'udi	g	75	68	0
Mus'lbr'k	u	87	63	0·03
Narrabri	b	89	59	0
Newcastle	g	82	70	0
Orange ..	r	65	1	1·91
[illegible]ton .	o	73	61	·14
P. M'q'rie	c	77	64	0
P. St'ph'n	[illegible]	[illegible]		0
Q'nbeyan	c	71	[illegible]	0·70
Quirindi	u	77	[illegible]	0
Singleton	u	75	69	[illegible]
SYDNEY	c	77		[illegible]
[illegible]				
Taralga ..	g	7		
Taree ..	[illegible]	[illegible]		0
T'nt'rfi'ld	-	—	—	-
Wagga ..	u	70	61	0·77
Walcha ..	c	7[illegible]	[illegible]	0·10
Walgett ..	b	85	7[illegible]	0
Warrah ..	u	75	—	0·04
W'ntw'rth	b	86	62	0
W'll'ng'ng	c	75	68	0·23
Young ..	u	68	62	0·74

NOTES EXPLANATORY OF MAP.

In the list of stations the column headed W.T. gives the state of the weather at 9 a.m., b standing for blue sky; c, detached clouds; d, drizzling rain; f, fog; g, gloomy; h, hazy; m, misty; n, [illegible]; o, overcast; p, passing showers; r, rain; s, snow; t, thunder; u, threatening. The next column, M'x gives the maximum temperature [illegible] 24 hours. M'n the corresponding minimum temperature, [illegible] the rain for [illegible] hours. The symbols used in the map are explained on the margin. At each coast [illegible] the wind symbol is placed like a vane pointing to the direction from which the wind [illegible] circle [illegible] weather; and a black spot, raining. Next to this symbol are the number of miles the wind is moving per hour; next, a symbol [illegible] of the sea; and, lastly, figures denoting the shade temperature at 9 a.m. [illegible]

[illegible] River; [illegible] is given [illegible] Springs [illegible] beginning with [illegible] ceding them, and [illegible]

9 A.M. OBSERVATIONS.

Western Australia.—Generally more or less cloudy and unsettled, with N. to W. winds in south, and variable winds in north, fallen barometers, and smooth sea. Extremes of barometers and temperature: Geraldton, 30 01; Albany, 29·78; Cossack, 88° and 50°.

South Australia.—Generally fine and warm, with light scattered clouds on and near the coast, light S.E. to N.E. winds, more or less steady barometers, and smooth sea. From Beltana along the telegraph line to Port Darwin it is cloudy and gloomy, with heavy rains fallen; Tennant's Creek reports 2·61 inches, Daly Waters 2·00, Charlotte Waters 1·70, Farina 1·62, Alice Spring 1·32, Strangways 1·03, and smaller quantities at other places. Extremes of barometers and temperature: Robe, 30·07 and 59°; Port Darwin, 29·76 and 82°.

Victoria.—Generally cloudy, cool, and unsettled, with light S.E. to S.W. winds and calms, risen barometers, and the sea smooth, but rising off Cape Otway. Rainfall: Melbourne, 0·03; and Wilson's Promontory, 0.01 inch. Extremes of barometers and temperature: Melbourne, 30·10 and 57°; Horsham, 30·00 and 72°.

Tasmania.—Generally fine but cloudy, with light variable winds and calms, risen barometers, and smooth to moderate sea. Extremes of barometers and temperature: Low Heads, 30·04 and 57°; Southport, 29·90 and 55°.

New Zealand.—Fine and calm in extreme north; fine with N.W. wind to southward. Barometers: Russell, 30·2; Wellington, 30·0; and Bluff, 29·7.

New South Wales.—Fine and clear in north parts, cloudy and gloomy over the remainder of the colony, with showers falling at scattered places in central parts; light variable winds and [illegible], risen barometers, and smooth sea. Rain has fallen generally, partial in north, but heavy over the watersheds of the Upper Lachlan and Murrumbidgee, where eight scattered stations report from one to nearly two inches fallen. Extremes of barometers and temperature: Walgett, 30·13 and 28°; Cape St. George, 29·96; and Cooma, 57°. Extra stations: Temora, rainfall 1·30 inch and dull; Brewarrina, 0·13; Wilcannia, 0·51 inch, and still, raining; Hill End, 0·80, and threatening. For further particulars see map.

Queensland.—In south coast districts cloudy and unsettled; fine west of the range, with light N.E. to S.E. winds and moderate sea. Rainfall: Mackay, 0·92; Cape Moreton, 0·13, and Brisbane 0·01 inches. Extremes of barometers and temperature Brisbane, 30·09; Cape Moreton, 30·05 and 71°; Roma, 74°. No reports from north parts.

3 P.M. OBSERVATIONS.

New South Wales.—Menindie, calm, dull, like rain, temperature 77°; Wentworth, N., 14, fine but cloudy, warm, temperature 73°; Deniliquin, calm, cloudy and dull, temperature 73°; Eden, E.N.E., 28, overcast and like rain, smooth sea, temperature 67.; Moruya, S., 28, overcast and gloomy, smooth sea, temperature 70°; Cape St. George, S.E., 14, cloudy and dull, smooth sea, temperature 69°; Sydney, S.S.E., 15, overcast and gloomy, smooth sea, temperature 71°; Newcastle, S., 14, showery, smooth sea, temperature 72°; Port Macquarie, N.N.E., 28, cloudy, moderate sea, temperature 79°; Clarence River, N.E., 14, [illegible], smooth sea, temperature 77°; Walgett, S.E., 14, cloudy and dull, temperature 82°; Dubbo, W., 14, fine but cloudy, temperature 75°; Goulburn, W.N.W., 14, dull, temperature 7[illegible].

Queensland.—Rockhampton, S.E., 23, passing showers, temperature 75°; Cape Moreton, E.S.E., 18, fine, temperature 72°; Brisbane, E.N.E., 8, cloudy, temperature 71°; Normanton, E., 13, cloudy and sultry, temperature 98°; Townsville, S.E., cloudy and fine, temperature 87°.

HEIGHT OF RIVERS ABOVE SUMMER LEVEL.

Macintyre: At Mungindi, 13 feet 10 inches. Barwon: At Mogil Mogil, 16 feet; at Walgett, 26 feet 2 inches. Namoi: At Walgett, 21 feet. Culgoa: At Goodooga, 6 feet 4 inches. Darling: At Brewarrina, 18 feet 4 inches; at Bourke, 29 feet 1 inch; at Louth, 30 feet 1 inch; at Tilpa, 34 feet 6 inches; at Wilcannia, 31 feet 11 inches; at Menindie, 25 feet 5 inches; at Pooncarie, 22 feet 1 inch; at Wentworth, 11 feet 5 inches. Murrumbidgee: At Gundagai, 4 feet 3 inches; at Wagga, 5 feet 9 inches; at Hay, 10 feet; at Balranald, 11 feet 10 inches. Murray: At Albury, 2 feet 3 inches; at Euston, 6 feet 4 inches.

ASTRONOMICAL MEMORANDA FOR APRIL 1.

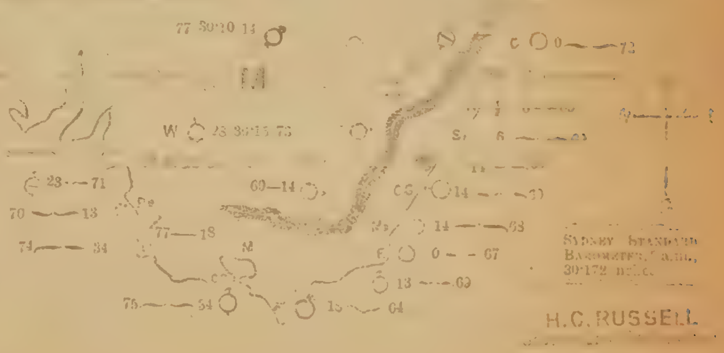
Sun rises at 6.15, sets at 5.51; Moon rises at 12.52 a.m., sets at 11.2 p.m.; Mercury, 4.50 a.m., 5.2 p.m.; Venus, 8.27 a.m., 7.13 p.m.; Mars, 6.39 a.m., 6.13 p.m.; Jupiter, 6.56 p.m., 8.2 a.m.; Saturn, 1.34 p.m., 11.23 p.m. Full moon, 10th; new moon, 24th.

High water at Fort Denison, April 1: 12.39 a.m., 1.6 p.m.

H. A. LENEHAN,
Acting Government Astronomer.

C. St. Geo.	b	[illegible]	[illegible]	[illegible]
C'nd'b'lin	c	81	51	0
Cooma	o	79	53	0·17
Coonab'n.	c	81	60	0
Cowra	c	78	67	0·05
Cudg'llico	g	81	68	0
Glen Innes	c	80	60	0
Goulburn	g	75	60	0
Gulgong	u	75	58	0
Gunned'h	b	81	67	0
Hay	b	85	68	0
Kiandra	b	70	46	0
Lismore	f	85	66	0
Maitland	u	91	68	0·50
Marsdens	c	76	62	0
Menindie	o	78	70	0
Molong	b	74	59	0
M'r'ng'r'll	c	78	68	0
Moree	b	92	68	0
Moruya	b	71	61	0·02
Moss Vale	n	67	62	0·02
Mt. Hope	b	79	66	0
Mudgee	u	72	[illegible]	[illegible]
M'rr'mb'h	u	86	63	0
M'tr'ndi	o	75	67	0
Narrabri	h	80	66	0
Newcastle	g	77	60	0·28
[illegible]	u	74	61	0·03
T'nt'rfield	o	[illegible]	[illegible]	0
Wan'ring	b	79	—	0
W'ntw'rth	b	91	63	0
W'll'ng'ng	[illegible]	73	[illegible]	[illegible]
Young	[illegible]	84	62	0

Curve ... of Barometer.



NOTES EXPLANATORY OF MAP.

In the list of stations the column headed W. gives the state of the weather at 9 a.m., b standing for blue sky; c, detached clouds; d, drizzling rain; f, fog; g, gloomy; h, hazy; m, misty; n, frosty; o, overcast; p, passing showers; r, rain; s, snow; t, thunder; u, threatening. [illegible] hours. M'n the corresponding minimum temperature; r'n, the rain for the [illegible] [illegible] Perth; Ay, Albany; Ea, Eucla; CB, Cape Borda; A, Adelaide; Re, Robe; P, Portland; M, Melbourne; WP, Wilson's Promontory; Go, Gabo; E, Eden; Ma, Moruya; CG, C Jervis Bay; Wg, Wollongong; S, Sydney; N, Newcastle; PM, Port Macquarie; C, Clarence River; B, Brisbane; R, Rockhampton; Ct, Cooktown. Inland the state of [illegible] is given in figures at [illegible] Springs. [illegible] beginning with [illegible] ceding them, and [illegible]

9 A.M. OBSERVATIONS.

Western Australia.—On the south coast. Showery at Albany, overcast and gloomy at Esperance Bay, with light W. to [illegible] winds, fallen barometers, and moderate sea. Rainfall: Albany, 0·10 inch; Esperance Bay, barometer, 29·66, and temperature 61°. No reports from west coast.

South Australia.—Generally fine and warm, with light scattered clouds, light to fresh N. to N.E. winds, fallen barometers, and moderate sea. Cloudy and gloomy north of Burra. Thunderstorms during the night at Clare, and 1·50 inches rain fallen. Extremes of barometers and temperature: Farina, 30·04; Eucla, 29·60; Adelaide, 80°; and Robe, 70°.

Victoria.—Generally fine and warm, with light to fresh N. to N.E. winds, fallen barometers, and smooth sea. Hot winds blowing at places; heavy dew and mist on the S.E. coast. Extremes of barometers and temperature: Omeo, 30·15 and 60°; Portland, 29·89; Melbourne 77°.

Tasmania.—Generally fine, with light variable winds and calms, almost steady barometers, and smooth sea. Extremes of barometers and temperature: Low Heads, 30·06 and 64°; Hobart, 29·96 and 56°.

New Zealand.—Cloudy and calm in extreme north; fine, with N.W. to S.W. winds to southward. Barometers: Russell, 30·2; Wellington and Bluff, 29·9.

New South Wales.—Fine in south and west parts, cloudy in the eastern division, with light showers in central coast districts, [illegible] variable winds and calms, slightly risen barometers and smooth sea. Light rain has fallen in S.E. parts, heaviest on the range. Extremes of barometers and temperature: Cape St. George, 30·19; Gabo Island, 30·03; Dubbo, 79°; and Cooma, [illegible]°. Extra station: Wilcannia, 0·30 inches rain fallen. For further particulars see map.

Queensland.—Generally fine, with light S.E. winds, risen barometers, and moderate sea. Rainfall: Mackay, 0·68; Cooktown, [illegible]·11; Rockhampton, 0·06; Brisbane and Townsville, 0·01 inch, and still raining at the latter place. Extremes of barometers and temperature: Brisbane, 30·12 and 73°; Normanton, 29·97; and [illegible] 56°.

[illegible]

Victoria.—Melbourne, N.N.E., 13, fine, temperature 87°. [illegible] temperature 78°; Wentworth, N.W., 14, cloudy and dull, temperature 7[illegible]; [illegible] N., 11, cloudy [illegible] N.E., 28, fine, smooth sea, temperature 72°; Moruya, N.E., 28, fine, smooth sea, temperature 77°; Cape St. George, N.W., 42, cloudy [illegible] temperature 72°; [illegible] 11, fine, but cloudy, smooth sea, temperature 73°; Newcastle, E., 14, fine, smooth sea, temperature 73°; Port Macquarie, S.E., 28, cloudy, smooth sea, temperature 81°; Clarence River, N.E., 14, fine, smooth sea, temperature 79°; Walgett, S.E., 14, cloudy, temperature 87°; Dubbo, N., 14, fine, but cloudy, temperature 77°; Goulburn, N.W., 14, dull, temperature 71°.

Queensland.—Rockhampton, E., 18, fine, temperature 82°; Normanton, S.E., 13, sultry and cloudy, temperature [illegible]; Brisbane, E.S.E., 13, overcast, gloomy to west, temperature 78°; Townsville, S.E., 13, temperature 87°; Cape Moreton, E.N.E., 23, cloudy, temperature 78°; Roma, E.S.E., cloudy, temperature [illegible]; Cooktown, S.E., moderate sea, temperature 86°.

HEIGHT OF RIVERS ABOVE SUMMER LEVEL.

Macintyre: At Mungindi, 15 feet. Barwon: At Mogil Mogil, 17 feet; at Walgett, 25 feet. Namoi: At Walgett, 21 feet. Culgoa: At Goodooga, 7 feet. Darling: At Brewarrina, 18 feet 2 inches; at Bourke, 29 feet; at Louth, 30 feet; at Tilpa, 34 feet 6 inches; at Wilcannia, 32 feet; at Menindie, 25 feet 6 inches; at Pooncarie, 22 feet 2 inches; at Wentworth, 11 feet 6 inches. Murrumbidgee: At Gundagai, 4 feet 10 inches; at Wagga, 7 feet; at Hay, 10 feet 8 inches; at Balranald, 12 feet. Murray: At Albury, 2 feet 8 inches; at Euston, 6 feet 4 inches.

ASTRONOMICAL MEMORANDA FOR APRIL 2.

Sun rises at 6.16, sets at 5.50; Moon, 1.45 p.m., 11.59 p.m.; Mercury, 4.46 a.m., 4.59 p.m.; Venus, 8.29 a.m., 7.13 p.m.; Mars, 6.39 a.m., 6.11 p.m.; Jupiter, 6.52 p.m.; 7.57 a.m.; Saturn, 1.30 p.m., 11.24 p.m. Full moon, 8th; new moon, 23rd.

High water at Fort Denison, April 2: 1.32 a.m., 2.7 p.m.

H. A. LENEHAN,
Acting Government Astronomer.

Stations.	W.T.	Mx	M'n	R'n
Albury ..	c	84	52	0·32
Armidale	b	77	57	0
Balranald	b	92	52	0
[illegible]	c	[illegible]	[illegible]	[illegible]
Bendem'r	u	81	58	0
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Bourke ..	b	94	62	0
[illegible]	b	86	61	0
C'md'n H.	r	87	71	0·13
C. St. Geo	c	73	59	0
[illegible]	g	75	55	0·22
Casino	b	90	62	0
[illegible]	r	[illegible]	67	0
[illegible]	b	[illegible]	[illegible]	0
[illegible]	[illegible]	[illegible]	43	[illegible]
Cooma ..	c	80	55	0
[illegible]	r	[illegible]	[illegible]	0·76
Cowra ..	c	88	60	0·11
[illegible]	u	[illegible]	[illegible]	[illegible]
Deniliq'n.	c	[illegible]	[illegible]	[illegible]
[illegible]	b	[illegible]	[illegible]	0
[illegible]	c	[illegible]	59	1·07
Euston	b	[illegible]	[illegible]	[illegible]
Forbes	r	[illegible]	60	[illegible]
[illegible]	b	[illegible]	[illegible]	0
[illegible]	g	79	50	0

EUCLA

Stations.	W.T.	Mx	M'n	R'n
Grafton ..	b	74	64	0
[illegible]	u	81	[illegible]	0·30
Gunned'h	c	85	65	0
Hay	c	66	51	0
Inverell ..	b	79	69	0
Kiandra ..	g	65	38	0·82
Lismore ..	b	83	65	0
Maitland .	r	87	65	[illegible]
Marsdens.	—	—	—	—
Menindie.	c	[illegible]	56	[illegible]
Molong	g	[illegible]	[illegible]	[illegible]
M'r'ng'r'll	c	69	56	[illegible]
Moree ..	b	99	67	0
Moruya ..	g	[illegible]	59	0
Moss Vale	—	—	—	—
Mt. Hope	u	[illegible]	58	[illegible]
M. Vict'ria	t	76	49	0·05
Mudgee ..	r	89	60	0·25
M'r'mb'h	u	86	57	0·03
M'rr'r'ndi	r	79	68	0·27
Mus'lbr'k	r	86	60	0·14
Narrabri	u	89	61	0
Newcastle	r	89	68	0·59
Orange ..	c	74	52	0·19
[illegible]ton ..	u	86	41	0·05
P. M'q'rie	r	80	67	0·21
P. St'ph'n	r	85	61	0·39
Q'nbeyan	c	78	56	–
Quirindi	u	86	65	0
Singleton	r	86	67	0·35
Sydney ..	u	89	65	0·01
Tamw'rth	g	83	67	0
Taralga ..	b	73	58	0
Taree ..	r	91	69	0·09
T'nt'rfield	b	83	68	0
Wagga ..	u	91	47	0·03
Walcha ..	c	74	53	0
Walgett ..	c	93	63	0
Warrah ..	c	85	—	0
W'ntw'rth	b	70	50	1·15
W'll'ng'ng	c	72	65	0
Young ..	c	86	59	0·08

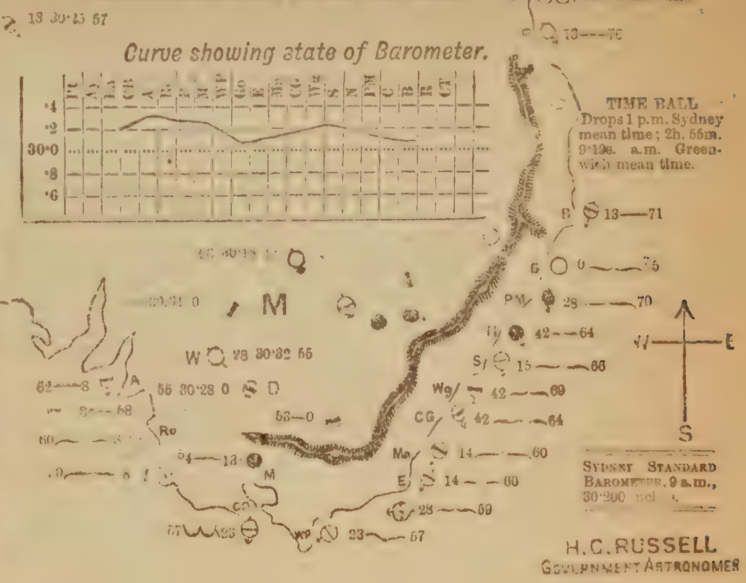
SYDNEY OBSERVATORY.

LATITUDE 33° 51' 41" S. LONGITUDE 10h. 4m. 50·81s. E.
MAGNETIC VARIATION, 9° 35' 37" E.

Average [illegible] .. 49 480
Average for 29 years from Jan. 1 to March 31 1887 .. 13 837
[illegible]

[illegible]

◯ Fine, wind N. [illegible]
◓ T. storm, wind S. [illegible]
[illegible]
Heavy sea.
[illegible]



NOTES EXPLANATORY OF MAP.

In the list of stations the column headed W.T. gives the state of the weather at 9 a.m., b standing for blue sky; c, detached clouds; d, drizzling rain; f, fog; g, gloomy; h, hazy; m, misty; n, frosty; o, overcast; p, passing showers; r, rain; s, snow; t, thunder; u, threatening. The next column, M'x gives the maximum temperature for previous 24 hours. M'n the corresponding minimum temperature; r'n, the rain for the previous 24 hours. The symbols used in the map are explained on the margin. At each coast station the wind symbol is placed like a vane pointing to the direction from which the wind is coming. A clear circle with [illegible] means fine weather; a circle with bar, cloudy weather; and a black spot, raining. Next to this symbol are placed figures denoting the number of miles the wind is moving per hour; next, a symbol showing the state of the sea; and, lastly, figures denoting the shade temperature at 9 a.m. The barometer curve shows the state of barometers round the coast from Perth to Cooktown:—Pt, Perth; Ay, Albany; Eu, Eucla; CB, Cape Borda; A, Adelaide; Re, Robe; P, Portland; M, Melbourne; WP, Wilson's Promontory; Go, Gabo; E, Eden; Ma, Moruya; CG Jervis Bay; Wg, Wollongong; S, Sydney; N, Newcastle; PM, Port Macquarie; C, Clarence River; B, Brisbane; R, Rockhampton; Ct, Cooktown. Inland the state of barometer is given in figures at Albury, Deniliquin, Wentworth, Menindie, Bourke, and Alice Springs. The barometer curve enables one at a glance to trace the depressions, beginning with Western Australia, and passing along eastwards; northerly winds preceding them, and southerly following.

9 A.M. OBSERVATIONS.

Western Australia.—No telegram.

South Australia.—Generally fine and cool inland, scattered clouds on and near the coast, with light S.E. to S.W. winds and calms, risen barometers, and smooth sea. Thunderstorms on Saturday afternoon. Light rain has fallen generally—heaviest at Lobethal, 1·90 inches; Charlotte Waters, 1·48; Teetulpa, 1·25; and eight others were an inch. On the coast the rainfall has been very slight. Extremes of barometers and temperature: Cape Borda, 30·33; Port Darwin, 29·84 and 83°; M'Donnell Bay, 54°.

Victoria.—Generally cloudy and cool, with light S. to W. winds and calms, risen barometers, and moderate to rather rough sea. Rainfall: Echuca, 1·08; Portland, 1·05; and Melbourne, 0·11 inches. Extremes of barometers and temperature: Melbourne, 30·[illegible] and 54°; Lakes Entrance, 30·21; and Horsham 69°.

[illegible]mania.—Generally fine, with light southerly winds and calms, risen barometers, and smooth sea. Rainfall at Circular Heads, 0·02 inch. Extremes of barometers and temperature: Circular Heads, 30·19; Hobart, 30·16 and 56°; Low Heads, 54°.

New Zealand.—Generally fine, with strong, squally, westerly winds, and on the west coast rough sea. Barometers in extreme north and south parts 30·0, over centre, 30·3.

New South Wales.—Fine and clear in extreme N.E. and S.W. parts; overcast and gloomy over the remainder of the colony, with more or less heavy rains falling in coasts districts between the Hawkesbury and Macleay rivers, and on the ranges west of these; light to fresh cool southerly winds, rather squally on the coast; high and rising barometers, and smooth to moderate sea. Light rain has fallen in south parts generally, heaviest on the Darling, from Wentworth to Wilcannia, where over an inch was recorded at several places. Extremes of barometers and temperature:—Wentworth, 30·32; Clarence Heads, 75°; Port Macquarie, 30·10; and Kiandra, 45°. For further particulars see map.

Queensland.—Generally fine and warm, with light N.E. to S.E. winds, risen barometers, and smooth to moderate sea. Rainfall:—Thargomindah, 0·33; Cape Moreton, 0·30; and Brisbane, 0·01 inches. Extremes of barometers and temperature: Cooktown, 30·15 and 86°; Rockhampton, 30·03, and Brisbane, 71°.

3 P.M. OBSERVATIONS.

Victoria.—Portland, S., 13, overcast, smooth sea, temperature [illegible]; Cape Otway, S., 18, fine but cloudy, moderate sea, temperature 60°; Melbourne, S.E., 8, overcast and gloomy, temperature 60°; Cape Schanck, S., 13, fine but cloudy, smooth sea, temperature 65°; Wilson's Promontory, S.W., 23, fine but cloudy, moderate sea, temperature 62°; Lakes' Entrance, S.W., 23, fine but cloudy, temperature 65°.

New South Wales.—Menindie, S.W., 14, fine and cool, temperature 68°; Wentworth, S., 14, fine and cool, temperature, 62°; Deniliquin, calm, fine and clear, temperature 72°; Eden, S.S.W., 28, fine, smooth sea, temperature 66°; Moruya, S., 14, overcast and dull, smooth sea, temperature 67°; Cape St. George, S.E., 42, cloudy and fresh, moderate sea, temperature 66°; Sydney, S.S.W., 15, overcast and misty, moderate sea, temperature 65°; Newcastle, S.E., 14, raining, moderate sea, temperature 63°; Port Macquarie, S., 42, overcast and showery, smooth sea, temperature 74°; Clarence River, S., 14, fine and clear, smooth sea, temperature 77°; Walgett, E.S.E., 14, fine, temperature 84°; Dubbo, S., 14, fine but cloudy, temperature 70°; Goulburn, E.S.E., 14, dull, temperature 64°.

Queensland.—Cape Moreton, N.E., 18, fine but cloudy, temperature 80°; Cooktown, S.E., 8, gloomy, moderate sea, temperature 80°; Brisbane, E.N.E., [illegible], fine and clear, temperature 85°; Roma, N.E., 8, light clouds, temperature 85°; Townsville, N.E., 23, misty rain, temperature 77°.

HEIGHT OF RIVERS ABOVE SUMMER LEVEL.

Macintyre: At Mungundi, 14 feet. Barwon: At Mogil Mogil, 18 feet; at Walgett, 23 feet 8 inches. Namoi: At Walgett, 19 feet. Culgoa: At Goodooga, 8 feet 10 inches. Darling: At Brewarrina, 17 feet 6 inches; at Bourke, 28 feet 7 inches; at Louth, 29 feet 8 inches; at Tilpa, 34 feet 6 inches; at Wilcannia, 32 feet 2 inches; at Menindie, 25 feet; at Pooncarie, 22 feet 5 inches; at Wentworth, 11 feet 9 inches. Murrumbidgee: At Gundagai, 4 feet 6 inches; at Wagga, 6 feet 4 inches; at Hay, 12 feet 4 inches; at Balranald, 12 feet 6 inches. Murray: At Albury, 3 feet 3 inches; at Euston, 6 feet 10 inches.

ASTRONOMICAL MEMORANDA FOR APRIL 5.

Sun rises at 6.16, sets at 5.49; Moon, 4.9 p.m., 2.4 a.m.; Mercury, 4.34 a.m., 4.51 p.m.; Venus, 8.35 a.m., 7.11 p.m.; Mars, [illegible] a.m., [illegible] p.m.; Jupiter, 6.39 p.m., 7.43 a.m.; Saturn, 1.[illegible] p.m. 11.12 p.m. Full moon, 8th; new moon, 23rd.

High water at Fort Denison, April 5: 5.26 a.m., 6 p.m.

H. A. LENEHAN,
Acting Government Astronomer.

Stations	W.T.	Mx	Mn	R'n
[illegible]	b	77	59	0
Armidale	b	71	60	0
Balranald	b	97	48	0
Bathurst	b	75	55	0
Bendemeer	g	[illegible]	[illegible]	[illegible]
Bodalla	g	65	60	0·02
Bourke	c	87	63	0
Buncarra	c	75	63	0·63
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
C. Sa[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Carcoar	[illegible]	[illegible]	[illegible]	[illegible]
Casino	u	[illegible]	[illegible]	[illegible]
Cassilis	[illegible]	[illegible]	[illegible]	[illegible]
Clarence	b	[illegible]	[illegible]	[illegible]
C[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Cooma	c	[illegible]	[illegible]	[illegible]
Coonab'n.	b	[illegible]	[illegible]	[illegible]
Cowra	u	[illegible]	[illegible]	[illegible]
Cudg'llico	[illegible]	[illegible]	[illegible]	[illegible]
Deniliq'n.	b	91	53	0
Dubbo	b	83	62	0
Eden	b	70	58	0
Euston	b	93	49	0
Forbes	b	—	59	0
Glen Inn's	b	75	59	0·10
Goulburn	b	78	53	0
Grafton	h	78	66	0·03
Gulgong	b	78	58	0
Gunned'h	-	—	—	-
Hay	b	72	55	0
Inverell	b	76	64	0
Kiandra	g	68	50	0
Lismore	r	79	71	0·03
Maitland	g	73	62	0·06
Marsdens	b	80	63	0
Menindie	b	77	59	0
Molong	b	71	56	0
M'r'ng'r'll	c	77	64	0·07
Moree	g	96	68	0
Moruya	g	77	62	0·02
Moss Vale	b	68	60	0
Mt. Hope	u	79	63	0
M. Vict'ria	u	67	54	0·05
Mudgee	c	88	55	0
M'rr'mb'h	u	83	59	0·30
M'rr'r'ndi	f	71	6?	0
Mu[illegible]	u	[illegible]	[illegible]	0
Narrabri	u	[illegible]	[illegible]	0
N[illegible]	b	70	[illegible]	0
Orange	b	70	[illegible]	0
[illegible]ton	g	72	59	0
P. M'q'rie	r	77	68	0·19
P. St'ph'n	b	75	61	0·05
Q[illegible]nbeyan	u	68	59	0
Quirindi	u	80	63	0·46
Singleton	g	75	66	0
SYDNEY	b	74	64	0·01
Tamw'rth	u	78	63	0
Taralga	b	75	52	0
Taree	g	77	66	0·04
T'nt'rfield	u	87	45	0·05
Wagga	g	81	53	0
Walcha	u	65	55	0·05
Walgett	c	85	66	0·02
Warrah	b	75	—	0
W'ntw'rth	b	83	55	0
W'll'ng'ng	b	74	68	0
Young	u	85	56	0

LATITUDE: 33° 51' 41" S. LONGITUDE: 10h. 4m. 50·25s. E.

MAGNETIC VARIATION, 9° 35' 37" E.

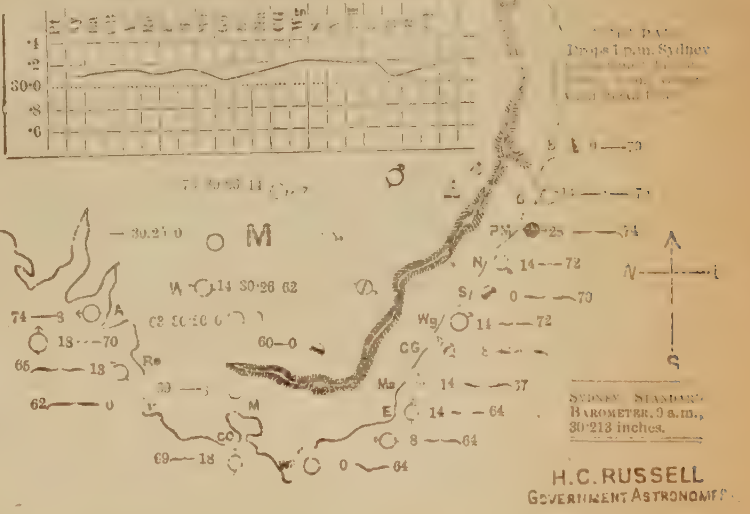
Average Annual Rainfall for 24 years ....49·439

Average for 24 years from Jan. 1 to March at 10 ....[illegible]

Total Rainfall from Jan. 1 to April 7, 1887.......... 14·135

Barometers corrected to 32° Fah. and Mean Sea Level

Curve showing state of Barometer.



NOTES EXPLANATORY OF MAP.

In the list of stations the column headed W.T. gives the state of the weather at 9 a.m., b standing for blue sky; c, detached clouds; d, drizzling rain; f, fog; g, gloomy; h, hazy; m, misty; n, frosty; o, overcast; p, passing showers; r, rain; s, snow; t, thunder; u, threatening. The next column, M'x gives the maximum temperature for previous 24 hours. M'n the corresponding minimum temperature; R'n, the rain for the previous 24 hours. The symbols used in the map are explained on the margin. At each station the wind symbol is placed like a vane pointing to the direction from which the wind is coming. A clear circle with it means fine weather, a circle with [illegible] [illegible] weather; and a black spot, raining. Next to this symbol are placed figures denoting the number of miles the wind is moving per hour, next, a symbol showing the state of the sea; and, lastly, figures denoting the shade temperature at 9 a.m. The barometer curve shows the state of barometers round the coast from Perth to Cooktown. Pt. Perth; Ay. Albany; Eu. Eucla; CB. Cape Borda; A. Adelaide; Re. Robe; P. [illegible]; M. Melbourne; W.P. Wilson's Promontory; Go. Gabo; E. Eden; Mo. Moruya; CG. [illegible] Bay; Wg. Wollongong; S. Sydney; N. Newcastle; PM. Port Macquarie; C. Clarence River; B. Brisbane; R. Rockhampton; Ct. Cooktown. Inland the state of barometer is given in figures at Albury, Deniliquin, Wentworth, Menindie, Bourke, and Alice Springs. The barometer curve enables one at a glance to trace the depression beginning with Western Australia and passing along eastwards; northerly winds preceding them, and southerly following.

9 A.M. OBSERVATIONS.

Western Australia.—At Esperance Bay fine weather, with light north wind, and smooth sea. Barometer, 30·14, and temperature 51 degrees.

South Australia.—Generally fine and clear, with light northerly winds, falling barometers, and smooth sea. Thunderstorms and showers yesterday at Eucla. Rainfall in Northern Territory; Port Darwin, 0·30; Yam Creek, 0·15; and Daly Waters, 0·09 inches. Extremes of barometers and temperature: Tarina, 30·24; Port Darwin, 29·92 and 83°; M'Donnell Bay, 65°.

Victoria.—Generally fine and clear, with light northerly winds and calms, fallen barometers, and smooth sea; heavy dew on the coast. Extremes of barometers and temperature: Omeo, 30·21 and 57°; Hamilton, 30·10; and Horsham, 71°.

Tasmania.—Generally fine and cool, with light variable winds, fallen barometers, and smooth sea. Foggy at Low Heads. Extremes of barometers and temperature: Low Heads, 30·17 and 57°; Southport, 30·05; and Falmouth, 62°.

New Zealand.—Generally fine, with N.E. to S.E. winds, and barometers standing at 30·4 inches.

New South Wales.—Fine and clear in West parts, more or less cloudy and unsettled in the Eastern division, with showers at Mount Hobe and the Port Macquarie districts; light variable, chiefly easterly, winds and calms, slightly fallen barometers, and smooth sea. Light rain has fallen in North-east parts; heaviest at Clarence. Extremes of barometers and temperature: Wentworth and Deniliquin, 30·26; Gabo, 30·07; Bourke, 75°; and Cooma, 55°. For further particulars, see map.

Queensland.—Generally fine and warm, with clouds at places, light easterly winds, fallen barometers, and moderate sea. Rainfall: Brisbane, 0·11; Hughenden, 0·74; Cape Moreton, 0·08; and Rockhampton, 0·04 inches. Extremes of barometers and temperature: Cooktown, 30·16 and 87°; Brisbane, 30·17; and Roma, 75°.

3 P.M. OBSERVATIONS.

Victoria.—Portland, W., 23, fine, smooth sea, temperature 80°; Cape Otway, N.N.W., 13, fine, smooth sea, temperature 78°; Melbourne, E.S.E., 8, fine, temperature 78°; Cape Schanck, W., 8, fine, hazy, smooth sea, temperature 68°; Wilson's Promontory, N.W., 8, fine, smooth sea, temperature 74°; Lakes Entrance, N.E., 11, fine, temperature 75°.

New South Wales.—Menindie, calm, fine and warm, temperature 73°; Wentworth, S., fine, temperature, 69°; Deniliquin calm, fine and warm, temperature 77°; Eden, S.E., 28, fine, smooth sea, temperature 69°; Moruya, S.S.E., 28, fine, smooth sea, temperature 76°; Cape St. George, N., 28, cloudy, smooth sea, temperature 72°; Sydney, E.N.E., 10, cloudy and dull, smooth sea, temperature 72°; Newcastle, N.E., 14, fine, smooth sea, temperature 73°; Port Macquarie, E., 28, showery, smooth sea, temperature 77°; Clarence River, S.E., 11, fine, smooth sea, temperature 80°; Dubbo, E., fine, temperature 76°; Goulburn, W., 14, fine, temperature 78°.

HEIGHT OF RIVERS ABOVE SUMMER LEVEL.

Macintyre: At Mungindi, 15 feet 6 inches. Barwon: At Mogil Mogil, 18 feet 10 inches; at Walgett, 24 feet 10 inches. Namoi: At Walgett, 18 feet 4 inches. Culgoa: At Goodooga, 9 feet 4 inches. Darling: At Brewarrina, 16 feet 9 inches; at Bourke, 28 feet 2 inches; at Louth, 29 feet 5 inches; at Tilpa, 34 feet 3 inches; at Wilcannia, 32 feet 5 inches; at Menindie, 25 feet 10 inches; at Pooncarie, 22 feet 9 inches; at Wentworth, 12 feet. Murrumbidgee: At Gundagai, 4 feet; at Wagga, 4 feet 8 inches; at Hay, 13 feet 4 inches; at Balranald, 11 feet 11 inches. Murray: At Albury, 4 feet 11 inches; at Euston, 6 feet 11 inches.

ASTRONOMICAL MEMORANDA FOR APRIL 8.

Sun rises at 6.19, sets at 5.45; Moon, 6.15 p.m., 5.31 a.m.; Mercury, 4.24 a.m., 4.44 p.m.; Venus, 8.42 a.m., 7.10 p.m.; Mars, 6.38 a.m., 5.58 p.m.; Jupiter, 6.26 p.m., 7.30 a.m.; Saturn, 1.7 p.m., 11.1 p.m. Full moon, 8th; new moon, 23rd.

High water at Fort Denison, April 8: 8.16 a.m., 8.39 p.m.

H. A. LENEHAN,
Acting Government Astronomer.

Stations.	Wt	Mx	Mn	Rn.
Albury ..	b	82	55	0
Armidale	c	75	59	0
Balranald	c	101	48	0
Bathurst	b	82	51	0·13
Bendem'r	g	77	58	0·02
Bodalla ..	b	64	57	0·02
Bourke ..	b	95	68	0·15
Buncarra	b	83	65	0
C'md'n H.	b	80	66	0
C. St. Geo.	b	79	63	0
Carcoar ..	b	71	42	0
Casino ..	c	89	63	0·18
Cassilis ..	c	73	65	0
Clarence ..	[illegible]	[illegible]	71	1·41
C'nd'b'lin	b	92	48	0
Cooma ..	b	83	47	0
Coonab'n.	b	85	54	0
Cowra ..	b	85	61	0·52
Cudg'llico	b	92	62	0
Deniliq'n.	b	92	50	0
Dubbo ..	b	86	62	0
Eden	b	73	70	0
Euston ..	b	95	65	0
Forbes ..	b	—	56	0
Glen Inn's	c	80	57	0
Goulburn	b	77	56	0·22
Grafton ..	b	86	70	0·18
Gulgong ..	b	72	50	0
Gunned'h	–	—	—	–
Hay ..	b	82	52	0
Inverell ..	b	82	59	0·13
Kiandra ..	b	74	35	0
Lismore ..	r	82	70	0·19
Maitland ..	g	82	64	0·02
Marsdens.	b	82	62	0·10
Menindie.	b	82	61	0
Molong ..	b	67	53	0
M'r'ng'r'll	b	69	59	0·68
Moree ..	b	97	64	0
Moruya ..	g	78	60	0
Moss Vale	b	71	58	0
Mt. Hope	b	88	63	0
M. Vict'ria	c	71	56	0·25
Mudgee ..	b	89	55	0
M'rr'mb'h	b	86	56	0
M'rr'r'ndi	f	73	61	0
Mus'lbr'k	b	81	60	0
Narrabri	b	85	62	0·02
Newcastle	b	76	69	0·01
Orange ..	b	73	54	0
Picton ..	f	76	58	0
P. M'q'rie	b	78	67	0·01
P. St'ph'n	u	77	[illegible]	0·09
Q'nbeyan	–	—	—	–
Quirindi	b	86	62	0
Singleton	g	70	61	0·20
Sydney ..	f	76	65	0·09
Tamw'rth	–	—	—	–
Taralga ..	b	81	55	0
Taree ..	b	83	68	0
T'nt'rfield	c	80	65	0
Wagga ..	b	85	51	0
Walcha ..	–	—	—	–
Walgett ..	b	89	65	0·22
Warrah ..	b	82	—	0
W'ntw'rth	b	90	65	0
W'll'ng'ng	b	77	69	0
Young ..	b	98	52	0

SYDNEY OBSERVATORY.

LATITUDE 33° 51' 41" S. LONGITUDE ... E.

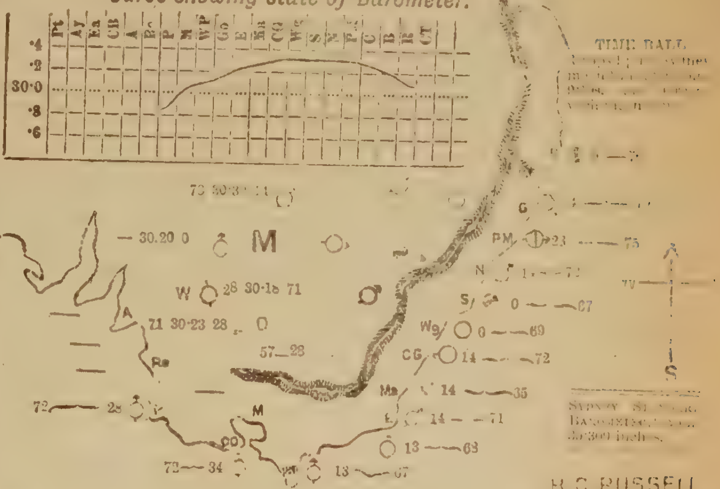
MAGNETIC VARIATION, 9° 35' 37" E.

Average Annual Rainfall for 28 years .... 49·489
Average for 29 years from Jan. 1 to March 31 1887 .. 13·867
Total Rainfall from Jan. 1. to April 9, 1887 ...... 14·255

Barometers corrected to 32° Fah. ...

wind N.
wind S.
If it is calm, the symbol used without the arrow.
Smooth sea.

Curve showing state of Barometer.



H. C. RUSSELL
GOVERNMENT ASTRONOMER

NOTES EXPLANATORY OF MAP.

In the list of stations the column headed W.T. gives the state of the weather at 9 a.m., b standing for blue sky; c, detached clouds; d, drizzling rain; f, fog; g, gloomy; h, hazy; m, misty; u, frosty; o, overcast; p, passing showers; r, rain; s, snow; t, thunder; u, threatening. The next column, M'x gives the maximum temperature for previous 24 hours. M'n the corresponding minimum temperature; Rn. the rain for the previous 24 hours. The symbols used in the map are explained on the margin. At each coast station the wind symbol is placed like a vane pointing to the direction from which the wind is coming. A clear circle with it means fine weather; a circle with bar, cloudy weather; and a black spot, raining. Next to this symbol are placed figures denoting the number of miles the wind is moving per hour; next, a symbol showing the state of the sea; and, lastly, figures denoting the shade temperature at 9 a.m. The barometer curve shows the state of barometers round the coast from Perth to Cooktown.—Pt, Perth; Ay, Albany; Ea, Eucla; CB, Cape Borda; A, Adelaide; Re, Robe; P, Portland; M, Melbourne; WP, Wilson's Promontory; Go, Gabo; E, Eden; Ma, Moruya; CG Jervis Bay; Wg, Wollongong; S, Sydney; N, Newcastle; PM, Port Macquarie, C, Clarence River; B, Brisbane; R, Rockhampton; Ct, Cooktown. Inland the state of barometer is given in figures at Albury, Deniliquin, Wentworth, Menindie, Bourke and Alice Springs. The barometer curve enables one at a glance to trace the ... beginning with Western Australia, and passing along eastwards; northerly winds preceding them, and southerly following.

9 A.M. OBSERVATIONS.

Victoria.—Generally fine and warm, with light clouds at places, light to fresh northerly winds, falling barometers, and smooth sea; hot winds on the coast. Extremes of barometers and temperature: Omeo, 30·19 and 64°: Portland, 29·86; and Melbourne, 74°.

Tasmania.—Generally fine and cool, with light northerly winds, falling barometers, and smooth sea. Extremes of barometers and temperature: Low Heads, 30·10 and 63°; Hobart, 29·97; and Falmouth, 60°.

New Zealand.—Passing showers from N.E. in extreme north parts; fine, with N.W. winds, over centre; and in south gloomy, with S. wind. Barometers: Russell, 30·4; Wellington, 30·2; and Bluff, 30·3.

New South Wales.—Generally fine and pleasant, with clouds and fogs at scattered places near the coast, and light showers at Lismore; light variable winds and calms, high and steady barometers, and smooth sea. Light rain has fallen at scattered places, chiefly along the range and coast, and heaviest at Clarence Heads. Extremes of barometers and temperature: Forbes, 30·35; Gabo, 30·19; in North coast districts, 75°; and at Cooma, 54°. For further particulars see map.

Queensland.—Cloudy and unsettled generally, with light rain falling at Rockhampton, Roma, and Normanton; light easterly winds and calms, risen barometers, and moderate sea. Rainfall: Cape Moreton, 0·43; Mackay, 0·41; Rockhampton, 0·30; and Brisbane, 0·04 inch. Extremes of barometers and temperature: Brisbane, 30·20 and 76°; Normanton, 29·92 and 83°; Cooktown, 83°; and Cape Moreton, 73°.

3 P.M. OBSERVATIONS.

New South Wales.—Menindie, N., fine, temperature 81°; Wentworth, N.W., fine, temperature, 76°; Deniliquin, W.N.W., fine and warm, temperature 81°; Eden, N.E., 42, fine, moderate sea, temperature 73°; Moruya, N.E., 42, fine but hazy, smooth sea, temperature 77°; Cape St. George N.E., 42, fine, smooth sea, temperature 73°; Sydney, N.E. fine, smooth sea; Port Macquarie, E.N.E., 28, fine and cloudy, smooth sea, temperature 80°; Clarence River, S.E., fine, smooth sea, temperature 77°; Dubbo, calm, fine, temperature 75°; Goulburn, N.E. dull, temperature 71°.

Victoria.—Portland, W.N.W., 28, overcast and like rain, smooth sea, temperature 68°; Cape Otway, N., 25, hot wind, gloomy, smooth sea, temperature 80°; Wilson's Promontory, N.N.E., 18, cloudy and gloomy, smooth sea, temperature 75°.

Queensland.—Mackay, calm, cloudy; Cape Moreton, E., 3, cloudy, temperature 78°; Roma, E., 13, partially clouded, temperature 74°; Rockhampton, E.S.E., 13, showery, temperature 75°; Brisbane, E., 13, cloudy, temperature 82°.

HEIGHT OF RIVERS ABOVE SUMMER LEVEL.

Macintyre: At Mungindi, 15 feet. Barwon: At Mogil Mogil, 19 feet; at Walgett, 25 feet 4 inches. Namoi: At Walgett, 17 feet 6 inches. Culgoa: At Goodooga, 9 feet. Darling: At Brewarrina, 16 feet 8 inches; at Bourke, 27 feet 8 inches; at Louth, 29 feet 3 inches; at Tilpa, 34 feet 2 inches; at Wilcannia, 32 feet 5 inches; at Menindie, 25 feet 11 inches; at Pooncarie, 22 feet 9 inches; at Wentworth, 12 feet. Murrumbidgee: At Gundagai, 4 feet; at Wagga, 4 feet 3 inches; at Hay, 10 feet 3 inches; at Balranald, 12 feet 5 inches. Murray: At Albury, 3 feet 6 inches; at Euston, 6 feet 11 inches.

ASTRONOMICAL MEMORANDA FOR APRIL 11.

Sun rises at 6.21, sets at 5.1; Moon, 8.28 p.m., 8.57 a.m.; Mercury, 4.19 a.m., 4.39 p.m.; Venus, 8.48 a.m., 7.10 p.m.; Mars, 6.37 a.m., 5.53 p.m.; Jupiter, 6.13 p.m., 7.17 a.m.; Saturn, 12.56 p.m., 10.50 p.m. Full moon, 8th; new moon, 23rd.

High water at Fort Denison, April 11: 10.25 a.m., 10.46 p.m.

H. A. LENEHAN,
Acting Government Astronomer

[illegible] AND MAP FOR APRIL 11, 1887.

Stations	W.T.	M'x	M'n	R'n
[illegible]				
Albury	b	83	56	0·42
Armidale	b	73	52	0
Balranald	b	82	45	1·64
Bathurst	g	80	53	0
Bendem'r	b	62	55	0
Cobella	-	-	-	-
Bourke	b	94	67	0
Buncarra	b	83	56	0
C'md'n H.	b	81	67	0
C. St. Geo.	r	75	58	0·46
Carroar..	r	72	48	0·91
[illegible]	u	80	61	1·14
[illegible]	c	76	62	0
Clarence	b	[illegible]		0
Coll'b'ine	g	83	46	1·02
Cooma	r	82	54	0·17
[illegible]	b	84	59	0
Cowra	r	83	61	0·91
[illegible]	u	92	59	0
Deniliq'n	b	[illegible]	46	0·78
Dubbo	b	85	59	0
Eden	u	75	58	0·48
Euston	b	65	46	0
Forbes	g	—	57	0·65
Glen Inn's	u	85	55	0
Goulburn	r	80	51	0·76
EUCLA				
Grafton	b	86	64	0·19
Gulgong	u	78	55	0
Gunned h	-	-	-	-
Hay	u	75	53	0·23
Inverell	b	77	56	0
Kiandra	-	-	-	-
Lismore	g	81	68	0·05
Maitland	u	81	62	0
Marsdens	c	84	63	0·31
Menindie	-	-	-	-
Molong	b	68	67	0
M'r'ng'r'll	r	75	60	0·14
Moree	b	97	63	0
Moruya	r	85	57	0·96
Moss Vale	-	-	-	-
Mt. Hope	b	86	58	0·32
M. Vict'ria	r	63	51	0
Mudgee	u	89	54	0·12
M'r'mb'h	c	85	60	0·49
M'rr'r'ndi	g	76	59	0
M'sw'lbr'k	c	83	60	0
Narrabri	b	86	59	0
Newcastle	c	85	65	0·01
Orange	c	72	61	0·20
[illegible]ton	r	79	59	0·13
P. M'q'rie	b	79	60	0
P. St'ph'n	c	78	62	0
Forbes[illegible]	r	75	56	0·30
Qunnali	b	86	62	0
Singleton	g	80	65	0
Sydney	r	77	63	0·01
Tamw'rth	-	-	-	-
Taralga	r	83	49	1·15
Taree	-	—	—	-
T'nt'rfield	b	76	51	0
Wagga	g	87		0·02
Walbun	t	73	50	0
Walgett	b	86	63	0
Wanah	b	85	—	0
W'ntw'rth	-	—	—	-
W'll'ng'ng	r	78	62	0·25
Young	r	89	40	0·[illegible]

SYDNEY OBSERVATORY.

Latitude 33° 51' 41" S. Longitude 10h. 4m. 50·31s. E.

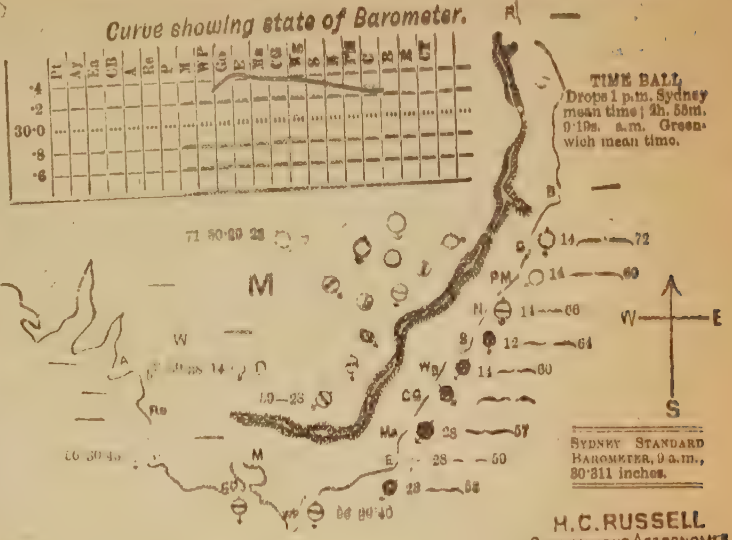
Magnetic Variation, 9° 39' 37" E.

Average Annual Rainfall for 29 years .... 49·489

Average for 29 years from Jan. 1 to March 31 1887 ... 13·887

Total Rainfall from Jan. 1, to April 11, 1887 .... 14·203

Barometer is corrected to 32° Fah. and Mean Sea Level



Fine, wind N. Cloudy, wind N. T. storm, wind N. Rain, wind W. If it is calm, the symbol used without the arrow. Smooth sea. Heavy sea. Very heavy sea.

SYDNEY STANDARD BAROMETER, 9 a.m., 30·311 inches.

H. C. RUSSELL
GOVERNMENT ASTRONOMER

NOTES EXPLANATORY OF MAP.

In the list of stations the column headed W.T. gives the state of the weather at 9 a.m., b standing for blue sky; c, detached clouds; d, drizzling rain; f, fog; g, gloomy; h, hazy; m, misty; o, frosty; o, overcast; p, passing showers; r, rain; s, snow; t, thunder; u, threatening. The next column, M'x gives the maximum temperature for previous 24 hours. M'n the corresponding minimum temperature; r'n, the rain for the previous 24 hours. The symbols used in the map are explained on the margin. At each coast station the wind symbol is placed like a vane pointing to the direction from which the wind is coming. A clear circle with it means fine weather; a circle with bar, cloudy weather; and a black spot, raining. Next to this symbol are placed figures denoting the number of miles the wind is moving per hour; next, a symbol showing the state of the sea; and, lastly, figures denoting the shade temperature at 9 a.m. The barometer curve shows the state of barometers round the coast from Perth to Cooktown:—Pt, Perth; Ay, Albany; Ea, Eucla; CB, Cape Borda; A, Adelaide; Re, Robe; P, Portland; M, Melbourne; W P, Wilson's Promontory; Go, Gabo; E, Eden; Ma, Moruya; C G Jervis Bay; Wg, Wollongong; S, Sydney; N, Newcastle; P M, Port Macquarie; C, Clarence River; B, Brisbane; R, Rockhampton; Ct, Cooktown. Inland the state of barometer is given in figures at Albury, Deniliquin, Wentworth, Menindie, Bourke, and Alice Springs. The barometer curve enables one at a glance to trace the depressions, beginning with Western Australia, and passing along eastwards, n[illegible] ceding them, and southerly following.

Western Australia.—Fine and clear generally, with high barometers to the south. Eucla 30·46, Perth 30·33, and low to north, Cossack 29·93. Extremes of temperature: Ashburton 82° and Perth 54°. Rough sea on N.W. coast.

South Australia, like Western Australia, reports high barometers to south of colony and low north; Port Augusta 30·36, Streaky Bay 30·43, Port Darwin 29·85, and Daly Waters 29·99. Overcast, cold, and gloomy.

Tasmania.—Generally fine, with high barometers.

Victoria.—Overcast and showery, with high barometers and low temperatures; rough sea at Cape Otway.

N[illegible]. The telegrams were delayed until late in the evening, owing, no doubt, to the holiday, and many of the results are not inserted in the weather map in consequence.

New South Wales.—Fine in north, cloudy and gloomy in S. and W., and raining in S.E. parts; light to fresh S.E. and S.W. winds, squally in places; high and steady barometers, and smooth to moderate sea. Light rains have fallen in south parts generally; several scattered stations report above an inch. Extremes of barometers and temperature: Eden, 30·41; Port Macquarie, 30·23; Clarence and Dubbo, 72°; Cooma, 49°. Extra [illegible] Bega, 0·17 inch rain fallen, and still raining. For further [illegible].

[illegible] Generally fine, with light N.E. to S.E. winds, [illegible] barometers, and smooth sea. Rainfall: Boulia, 0·28; [illegible], Normanton and Cape Moreton, 0·08; and Brisbane [illegible]. Extremes of barometers and temperature: [illegible] 75°; Normanton, 30·04 and 82°.

3 P.M. OBSERVATIONS.

Victoria.—Portland, S.E., 18, fine, but cloudy, moderate sea, temperature 62°; Wilson's Promontory, S., 18, fine, but cloudy, moderate sea, temperature 62°.

New South Wales.—Sydney, S., 17, raining steadily, temperature 62°.

Queensland.—Cape Moreton, E.S.E., 28, showery, temperature 75°.

HEIGHT OF RIVERS ABOVE SUMMER LEVEL.

Macintyre: At Mungindi, 11 feet. Barwon: At Mogil Mogil, 18 feet; at Walgett, 26 feet 8 inches. Namoi: At Walgett, 16 feet 6 inches. Culgoa: At Goodooga, 8 feet 4 inches. Darling: At Brewarrina, 17 feet; at Bourke, 27 feet 3 inches; at Louth, 29 feet; at Wilcannia, 32 feet 5 inches. Murrumbidgee: At Gundagai, 4 feet; at Wagga, 4 feet 6 inches; at Hay, 8 feet 11 inches; at Balranald, 12 feet 5 inches. Murray: At Albury, 3 feet; at Euston, 5 feet 11 inches.

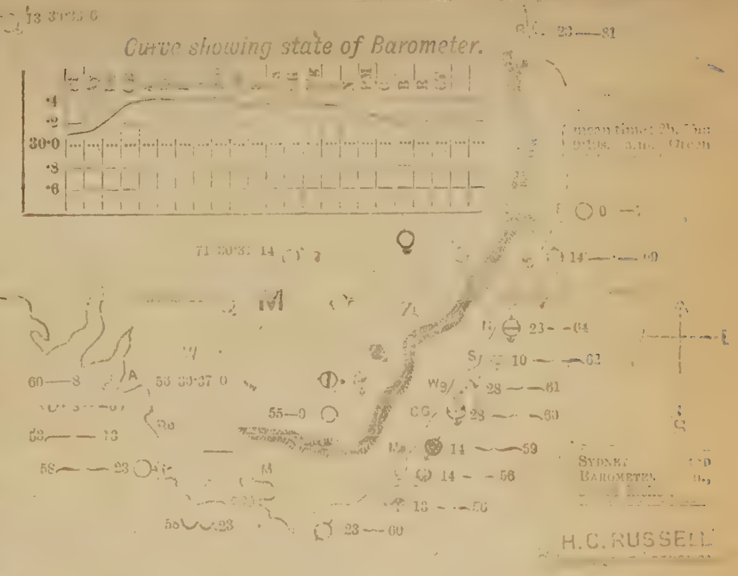
ASTRONOMICAL MEMORANDA FOR APRIL 12.

Sun rises at 6.21, sets at 5.40; Moon, 9.19 p.m., 10.0 a.m.; Mercury, 4.17 a.m., 4.37 p.m.; Venus, 8.50 a.m., 7.9 p.m.; Mars, 6.37 a.m., 5.51 p.m.; Jupiter, 6.9 p.m., 7.13 a.m.; Saturn, 12.52 p.m., 10.46 p.m. Full moon, 8th; new moon, 23rd.

High water at Fort Denison, April 12: 11.6 a.m., 11.29 p.m.

H. A. LENEHAN,
Acting Government Astronomer.

Cowra	u	65 54	1·22	
Deniliq'n	c	76 47	0	
Eden	r	64	3·07	
Forbes	u	—	0·78	
Glen Inn's	c	68 53	0	
EUCLA				
Grafton	b	89 63	0	
Gulgong	u	70 50	0	
Gunned'h	—	— —	—	
Hay	b	72 55	0	
Inverell	b	78 54	0	
[illegible]				
Lismore	r	78 66	0·12	
Maitland	u	71 42	0·15	
Marsdens	u	66 58	0·05	
Menindie	b	67 55	0	
Molong	u	61 54	2·83	
M'r'ng'r'll	r	65 57	0·22	
Moree	b	96 59	0	
Moruya	r	61 55	0·08	
Moss Vale	r	57 51	0·67	
Mt. Hope	r	66 56	0·71	
M.Victria	r	[illegible]	0·45	



Mudgee	o	69 52	0
M'rr'mb'h	u	59 54	0·77
M'rr'r'ndi	o	81 61	0
Mus'lbr'k	c	71 58	0
Narrabri	b	84 61	0
Newcastle	g	77 64	0·72
Orange	c	63 52	1·27
Picton	u	63 56	0·30
P M'q'rie	r	78 64	1·03
P St'ph'n	u	73 61	0·32
Q'nbeyan	c	65 52	0·30
Quirindi	b	84 60	0
Singleton	r	70 65	0·08
SYDNEY	o	66 59	0·79
Tamw'rth	—	— —	—
Taralga	r	73 53	1·20
Taree	g	78 66	1·16
T'nt'rfield	c	72 58	0
Wagga	g	68 53	0
[illegible]	c	71 52	0
Walgett	b	88 63	0
Warrah	b	78 —	0
W'ntw'rth	c	67 47	0
W'll'ng'ng	b	62 60	0·75
Young	r	64 49	0·60

NOTES EXPLANATORY OF MAP.

In the list of stations the column headed W.T. gives the state of the weather at 9 a.m., b standing for blue sky; c, detached clouds; d, drizzling rain; f, fog; g, gloomy; h, hazy; m, misty; [illegible] threatening. The next column, M'x gives the maximum temperature for previous 24 hours. M'n the corresponding minimum temperature; R'n, the rain for the previous 24 hours. The symbols used in the map are explained on the margin. At each coast station the wind symbol is placed like a vane pointing to the direction from which the wind is coming. A clear circle with it means fine weather; a circle with bar, cloudy weather; and a black spot, raining. Next to this symbol are placed figures denoting the number of miles the wind is moving per hour; next, a symbol showing the state of the sea; and, lastly, figures denoting the shade temperature at 9 a.m. The barometer curve shows the state of barometers round the coast from Perth to Cooktown:—Pt, Perth; Ay, Albany; Ea, Eucla; CB, Cape Borda; A, Adelaide; Re, Robe; P, Portland; M, Melbourne; W P, Wilson's Promontory; Go, Gabo; E, Eden; Mu, Moruya; CG Jervis Bay; Wg, Wollongong; S, Sydney; N, Newcastle; PM, Port Macquarie; C, Clarence River; B, Brisbane; R, Rockhampton; Ct, Cooktown. [illegible] is given in [illegible] at Albany, [illegible] [illegible] ceding them, and southerly following.

9 A.M. OBSERVATIONS.

West Australia.—Generally fine, with light variable winds, falling barometers, and smooth sea. Extremes of barometers and temperature: Perth, 30·15 and 50°; Carnarvon, 29·96 and 79°.

South Australia.—Generally fine and pleasant, with scattered clouds over Yorke's Peninsula and Kangaroo Island; light south to east winds, falling barometers, and smooth sea. Extremes of barometers and temperatures: Robe, 30·38 and 53.; Port Darwin, 29·86 and 84°.

Victoria.—Generally fine and cool, with light to fresh easterly winds, high barometers, and the sea smooth to moderate, but rather rough off Cape Otway. Extremes of barometers and temperature: Cape Otway, 30·43; Lakes Entrance, 30·36 and 45°; Horsham, 64°.

Tasmania.—Generally fine and cool, with light variable winds and calm, high barometers, and moderate sea. Hoar frost at Hobart and Southport. Extremes of barometers and temperature: Low Heads, 30·49; Circular Heads, 30·43 and 55.; Southport, 46°.

New Zealand.—Passing showers from east in extreme north; fine, with S.E. winds and calm, to southward. Barometers: Extreme south, 30.4; to northward, 30·3.

New South Wales.—Fine and cool in west parts, cloudy and threatening, with rain at places in the eastern division; light N.E. to S.E. winds and calms; high and risen barometers, smooth to moderate sea. More or less heavy rains have fallen in south-east parts; heaviest on the Upper Lachlan, and in the south coast districts. Molong reports 2·83 inches, and eight others over an inch. Extremes of barometers and temperature: Wentworth, 30·40 and 50; Clarence, 30·[illegible] and [illegible]. Extra stations: Camden, 0·35 inch rain fallen, and still showery; Temora, 0·25 inch rain fallen; Gabo Island, 0.39 inch rain [illegible]. For further particulars see map.

Queensland.—Generally fine, with light easterly winds, almost steady barometers, and smooth to moderate sea. Rainfall: Cooktown, 0·3[illegible]; Townsville, 0·25; Rockhampton and Cape Moreton, 0·10 inches. Extremes of barometers and temperature: Cooktown, [illegible] and 86°; Townsville, 30·03; and Cape Moreton, 71°.

3 P.M. OBSERVATIONS.

New South Wales.—Menindie, S., 28, overcast, dull, and cold, temperature [illegible]; Wentworth, [illegible] cloudy and cold, temperature 58°; Deniliquin, calm, cloudy, and dull, temperature 72°; Eden, S.W., 14, overcast, like rain, moderate sea, temperature 65°; Moruya, S.W., 28, gloomy and showery, smooth sea, temperature 65°; Cape St. George, S., 42, cloudy, moderate sea, temperature 65°; Sydney, S.S.W., 14, overcast and dull, smooth sea, temperature 66°; Newcastle, S.W., 14, fine, smooth sea, temperature 69°; Port Macquarie, S., 42, cloudy, smooth sea, temperature 74°; Clarence River, E., 14, raining, smooth sea, temperature 77°; Walgett, S.E., 14, cloudy, temperature 72°; Dubbo, N., 14, fine but cloudy, temperature 71°; Goulburn, S.E., 14, showery, temperature 62°.

Queensland.—Cape Moreton, E., 28, fine, temperature 7[illegible]; Brisbane, S.E., 13, fine but cloudy, temperature 75°; Cooktown, S.E., 13, fine and clear, moderate sea, temperature 83°; Roma, E.N.E., 13, partially cloudy, temperature 80°; Townsville, S.E., 13, overcast and showery, temperature 80°; Rockhampton, [illegible], fine and clear; temperature 79°.

HEIGHT OF RIVERS ABOVE SUMMER LEVEL.

Macintyre: At Mungindi, 11 feet 8 inches. Barwon: At Mogil Mogil, 17 feet; at Walgett, 26 feet. Namoi: At Walgett, 15 feet 10 inches. Culgoa: At Goodooga, 8 feet 7 inches. Darling: At Brewarrina, 17 feet; at Bourke, 27 feet 2 inches; at Louth, 28 feet 9 inches; at Tilpa, 34 feet; at Wilcannia, 32 feet 6 inches; at Menindie, 25 feet; at Pooncarie, 22 feet 11 inches; at Wentworth, 12 feet 1 inch. Murrumbidgee: At Gundagai, 4 feet; at Wagga, 4 feet 10 inches; at Balranald, 12 feet. Murray: At Albury, 3 feet; at Euston, 6 feet 11 inches.

ASTRONOMICAL MEMORANDA FOR APRIL 13.

Sun rises at 6.22, sets at 5.38; Moon, 10.11 p.m., 11.1 a.m.; Mercury, 4.15 a.m., 4.35 p.m.; Venus, 8.52 a.m., 7.9 p.m.; Mars, 6.36 a.m., 5.49 p.m.; Jupiter, 6.5 p.m., 7.9 a.m.; Saturn, 12.48 p.m., 10.42 p.m. Full moon, 8th; new moon, 23rd.

High water at Fort Denison, April 13: 11.51 a.m.

H. A. LENEHAN,
Acting Government Astronomer.

Stations.	W.T.	Mx.	Mn.	Rn.
Albany	c	73	55	0
[illegible]	u	68	54	0·04
[illegible]	[illegible]	79	47	0
[illegible]	[illegible]	62	53	0·01
[illegible]	[illegible]	78	49	0
[illegible]	[illegible]	90	64	0
[illegible]	[illegible]	84	56	0·13
[illegible]	[illegible]	73	66	0·53
[illegible]	r	67	60	0·99
[illegible]	r	69	43	0·97
Cassio	b	83	55	0
[illegible]	b	64	61	0
[illegible]	b	81	70	0·11
[illegible]	[illegible]	70	41	1·03
[illegible]	c	—	57	0·46
Deniliquin	b	70	52	0
[illegible]	r	60	53	0·49
Maitland	b	71	50	0
Molong	b	59	56	0·16
[illegible]	b	63	56	1·18
[illegible]	r	67	59	2·27
[illegible]	b	50	45	0·05
Mudgee	u	73	51	0
[illegible]	c	58	56	0·03
[illegible]	b	67	60	0
[illegible]	c	72	56	0·02
[illegible]	b	83	61	0
Newcastle	b	76	61	0·03
Orange	b	61	51	0·15
[illegible]	r	64	58	0·12
[illegible]	r	73	62	1·92
[illegible]	r	72	61	0·42
[illegible]	r	62	53	0·95
[illegible]	b	80	60	0
Singleton	b	70	64	0
Sydney	r	68	61	1·76
Tamworth	-	—	—	-
[illegible]	g	69	29	0·50
[illegible]	c	74	60	0·28
[illegible]	c	70	45	0·20
[illegible]	r	65	54	0·04
[illegible]	r	69	49	0·06
Walgett	b	85	62	0·07
Warrah	c	78	—	0
Wentworth	c	72	49	0
[illegible]	r	67	61	0·13
Young	r	66	52	1·10

SYDNEY OBSERVATORY.

Latitude 33° 51' 41" S. Longitude 10h. 4m. 50·34s. E.

Magnetic Variation, 9° 35' 37" E.

Average Annual Rainfall for 28 years ... 49·450

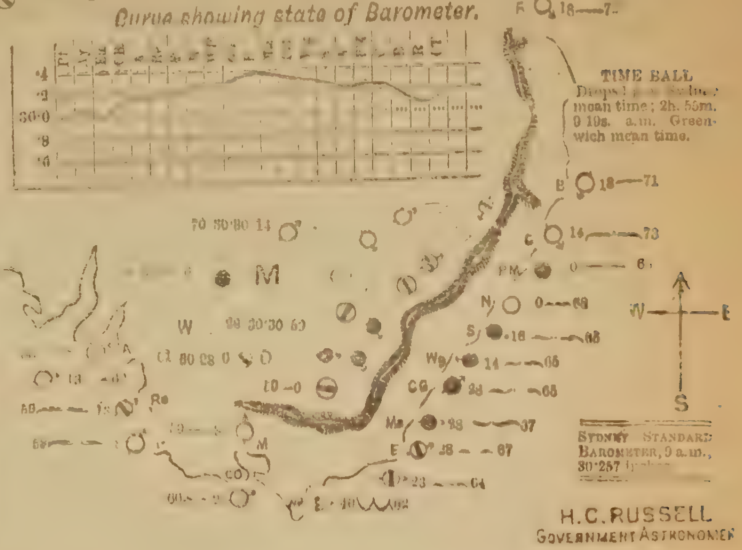
Average for 28 years from Jan. 1 to March 31 1847 ... 13·837

To all rainfall from Jan. 1, to April 13, 1887 ... 16·815

Barometers corrected to 32° F.ah. and Mean Sea Level

Fine, wind N. — Cloudy, wind E.
T. storm, wind S.
If it is CALM, the symbol used without the arrow.
Smooth sea.
Heavy sea.
Very heavy sea.

Curve showing state of Barometer.



TIME BALL

Drops 1 p.m. Sydney mean time; 2h. 55m. 0 10s. a.m. Greenwich mean time.

SYDNEY STANDARD BAROMETER, 9 a.m., 30·257 inches.

H.C. RUSSELL
GOVERNMENT ASTRONOMER

NOTES EXPLANATORY OF MAP.

In the list of stations the column headed W.T. gives the state of the weather at 9 a.m.: b standing for blue sky, c, detached clouds; d, drizzling rain; f, fog; g, gloomy; h, heavy; m, misty; l, frosty; o, overcast; p, passing showers; r, rain; s, snow; t, thunder; u, threatening. The next column Mx gives the maximum temperature for previous 24 hours. Mn the corresponding minimum temperature; Rn. the rain for the previous 24 hours. The symbols used on the map are explained on the margin. At each coast station the wind symbol is placed like a vane pointing to the direction from which the wind is coming. A clear circle with it means fine weather; a circle with bar, cloudy weather; and a black spot, raining. Next to this symbol are placed figures denoting the number of miles the wind is moving per hour; next, a symbol showing the state of the sea; and, lastly, figures denoting the shade temperature at 9 a.m. The barometer curve shows the state of barometers round the coast from Perth to Cooktown:—Pt, Perth; Ay, Albany; Ea, Eucla; CB, Cape Borda; A, Adelaide; Re, Robe; P, Portland; M, Melbourne; W P, Wilson's Promontory; Go, Gabo; E, Eden; Ma, Moruya; C G Jervis Bay; Wg, Wollongong; S, Sydney; N, Newcastle; P M, Port Macquarie; C, Clarence River; B, Brisbane; R, Rockhampton; Ct, Cooktown. Inland the state of barometer is given in figures at Albury, Deniliquin, Wentworth, Menindie, Bourke, and Alice Springs. The barometer curve enables one at a glance to trace the depressions, beginning with Western Australia, and passing along eastwards; northerly winds preceding them, and southerly following.

9 A.M. OBSERVATIONS.

West Australia.—Fine, with S.E. to S.W. winds along the west coast; cloudy and gloomy in south parts, with fresh, squally, [illegible]rly winds, and moderate to rough sea. Extremes of barometers and temperature: Perth, 30·17 and 55°; Cossack, 29·91 a[illegible].

South Australia.—Generally fine, clear, and pleasant in south parts, scattered clouds north of Burra; light variable, chiefly [illegible]y, winds, fallen barometers, and smooth sea. Rainfall in [illegible]thern Territory: Port Darwin, 0·21, and Yam Creek, 0·70 [illegible] Extremes of barometers and temperature: Port Augusta, [illegible], Port Darwin, 29·89 and 83°; Robe, 59.

[illegible]ia.—Generally fine, but cloudy and cool, with fresh E. to [illegible]ds, fallen barometers, and moderate to rather rough [illegible] Extremes of barometers and temperature: Lakes Entrance, [illegible]; Portland, 30·20 and 58°; Horsham, 65°.

Tasmania.—Generally fine, with light clouds at places, light [illegible] winds and calms, fallen barometers, and moderate to [illegible] Extremes of barometers and temperature: South-[illegible]: Circular Heads, 30·32 and 62°; Hobart, 50°.

New Zealand.—In extreme north fine and calm; barometer, [illegible]omy, with S.E. wind at Wellington, 0·40 inch rain [illegible] passing showers from S.E., and high sea in extreme [illegible] Barometers on North Island, 30·2.

New South Wales.—Fine in north, raining more or less heavily in S.E. parts, and over the remainder of the colony cloudy and [illegible]; light to fresh N.E. to S.E. winds, slightly fallen [illegible]eters, and smooth to moderate sea. Rains have fallen in [illegible]tern division generally; heaviest on the Upper Lachlan [illegible] Murrumbidgee, and in coast districts. Moruya, Port Macquarie and Sydney had 2·27, 1·92, and 1·76 inches respectively. Extremes of barometers and temperature: Eden, 30·35; New-[illegible], [illegible]; Clarence, 73°; and Kiandra, 50°. For further [illegible] see map.

[illegible]nsland.—Generally fine, with light easterly winds, steady [illegible] and smooth to moderate sea. Rainfall: Mackay, [illegible]; Cooktown, 0·36, and Brisbane, 0·01 [illegible] Extremes of barometers and temperature: Brisbane, [illegible] and 71°, Normanton, 29·92; and Cooktown 86°.

3 P.M. OBSERVATIONS.

Victoria.—Portland, S.E., 18, fine but cloudy, smooth sea, temperature 66°; Cape Otway, E., 18, cloudy, smooth sea, temperature 64°; Melbourne, E.S.E., 8, fine but cloudy, temperature 70°; Cape Schanck, N.N.E., 8, fine but cloudy, smooth sea, temperature 64°; Wilson's Promontory, E., 40, cloudy, squally, and rough sea, temperature 62°; Lakes Entrance, E., 23, cloudy, temperature 67°.

New South Wales.—Menindie, calm, dull, and showery, temperature 68°; Wentworth, N., 14, fine but cloudy, temperature 69°; Deniliquin, calm, fine but cloudy, temperature 74°; Eden, E.N.E., 28, overcast and showery, smooth sea, temperature 68°; Moruya, W., 14, showery and overcast, moderate sea, temperature 66°; Cape St. George, E.N.E., 14, raining, moderate sea, temperature 66°; Sydney, E.N.E., 15, threatening to south, moderate sea, temperature 68°; Newcastle, S.E., 14, fine, moderate, sea, temperature 71°; Port Macquarie, S.E., 14, cloudy and sultry, moderate sea, temperature 78°; Clarence River, S.E., 14, fine, smooth sea, temperature 77°; Dubbo, calm, fine, temperature 73°; Goulburn, E., 14, showery, temperature 64°.

Queensland.—Brisbane, S.E., 23, cloudy, temperature 76°; Roma, S.E., 13, fine, temperature 78°; Cape Moreton, E.S.E., 28, fine, temperature 75°; Townsville, S.E., 13, fine, temperature 82°; Rockhampton, S.E., 8, fine, temperature 80°; Cooktown, S.E., 8, fine and clear, and slight sea, temperature 85°.

HEIGHT OF RIVERS ABOVE SUMMER LEVEL.

Macintyre: At Mungindi, 12 feet. Barwon: At Mogil Mogil, 16 feet; at Walgett, 25 feet. Namoi: At Walgett, 15 feet. Culgoa: At Goodooga, 17 feet. Darling: At Brewarrina, 8 feet 6 inches; at Bourke, 26 feet 11 inches; at Louth, 28 feet 3 inches; at Tilpa, 33 feet 11 inches; at Wilcannia, 32 feet; at Menindie, 26 feet; at Pooncarie, 23 feet; at Wentworth, 12 feet 2 inches. Murrumbidgee: At Gundagai, 4 feet; at Wagga, 4 feet 4 inches; at Hay, 7 feet 5 inches; at Balranald, 12 feet 6 inches. Murray: At Albury, 3 feet 10 inches; at Euston, 6 feet 11 inches.

ASTRONOMICAL MEMORANDA FOR APRIL 14.

Sun rises at 6.23, sets at 5.37; Moon, 11.4 p.m., 11.57 a.m.; Mercury, 4.14 a.m., 4.34 p.m.; Venus, 8.53 a.m., 7.9 p.m.; Mars, 6.36 a.m., 5.48 p.m.; Jupiter, 6.0 p.m., 7.4 a.m.; Saturn, 12.45 p.m., 10.39 p.m. Full moon, 8th; new moon, 23rd.

High water at Fort Denison, April 14: 12.15 a.m., 12.39 p.m.

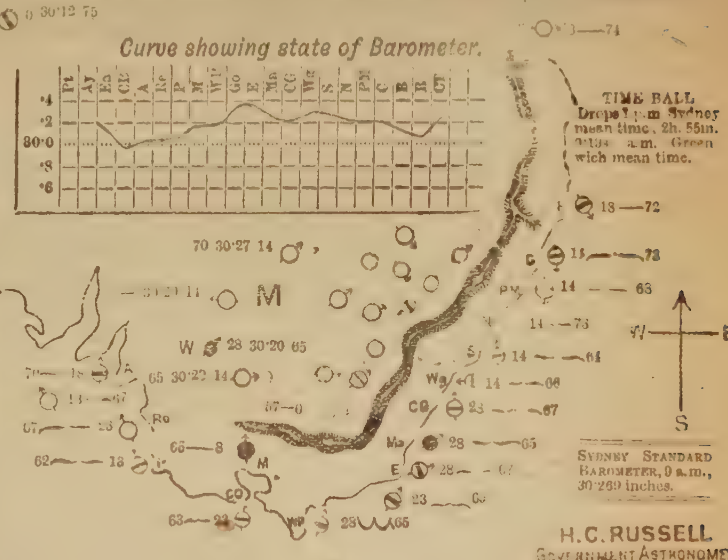
H. A. LENEHAN,
Acting Government Astronomer.

Stations	W.T.	M'x	M'n	R'n
Albury ..	b	76	56	0
Armidale	u	[illegible]	[illegible]	
Balranald		[illegible]4		0·[illegible]
Bathurst	f	76	48	0·[illegible]
Bendem'r'	g	69	46	0
Bodalla ..	r	67	51	1·21
Bourke ..	b	88	61	0
Brewarrina	b	79	57	0
C'md'n H.	b	76	65	0
C. St. Geo.	c	69	62	2·52
Carcoar ..	b	67	46	0·15
Casino ..	b	80	57	0
Cassilis	c	71	[illegible]	0
Clarence ..	g	83	70	0
C'nd'b'lin	b	76	44	0
Cooma	o	63	55	0·12
Coonab'n.	g	81	48	0
Cowra	c	76	58	0
Cunig'lleo	u	90	61	0
Deniliq'n.	b	82	54	0
Dubbo ..	b	84	55	0
Eden ..	u	70	63	0·30
Euston ..	r	83	59	0
Forbes ..	b	—	51	0
Glen Inn's	g	75	40	0
Goulburn	g	66	53	0·19
Grafton	r	88	61	0·[illegible]
Gulgong	c	73	52	0
Gunned'h		—	—	—
Hay	b	80	55	0
Inverell	h	79	50	0
Kiandra	r	54	47	0·03
Lismore	b	76	61	0
Maitland	r	81	43	0
Marsden	b	75	61	0
Menindie	g	72	62	0
Molong ..	b	60	50	0
M'r'ng'r'll	b	69	56	0
Moree ..	b	92	58	0
Moruya ..	r	71	52	1·80
Moss Vale	h	62	56	0·37
Mt. Hope	b	78	51	0
M Vict'ria	b	63	52	0·08
Mudgee ..	u	85	48	0
M'rr'mb'h	b	73	53	0·10
M'rr'r'ndi	c	71	59	0
M'ts'lbr'k	u	78	58	0
Narrabri	h	80	58	0
Newcastle	b	78	65	0·14
Orange ..	b	65	52	0·03
Picton ..	b	65	58	2·90
P. M'q'rie	c	75	63	0·35
P. St'ph'n	b	76	58	0·30
Q'nbeyan	c	61	57	0·10
Quirindi	b	83	58	0
Singleton	b	70	64	0
Sydney ..	f	70	61	0·69
Tamw'rth	—	—	—	—
Taralga ..	b	65	52	0·08
Taree ..	b	81	64	0·05
T'nt'rfield	b	70	56	0
Wagga ..	b	68	50	0·15
Walcha ..	u	70	48	0
Walgett ..	b	82	60	—
Warrah ..	b	77	—	0
W'ntw'rth	r	78	61	0·42
W'll'ng'ng	c	69	65	2·74
Young ..	b	79	51	0·04

SYDNEY OBSERVATORY.

Average Annual Rainfall for 29 years ....
Average for 29 years from Jan. 1 to March 31 1887 ..
Total Rainfall from Jan. 1, to April 14, 1887 ......
Barometers corrected to 32° Fah. and Mean Sea Level.

wind N ... wind E ... with the arrow. Smooth sea. Heavy sea. Very heavy sea.



NOTES EXPLANATORY OF MAP.

In the list of stations the column headed W.T. gives the state of the weather at 9 a.m., b standing for blue sky; c, detached clouds; d, drizzling rain; f, fog; g, gloomy; h, hazy; m, misty; n, frosty; o, overcast; p, passing showers; r, rain; ... u, threatening. The next column, M'x gives the maximum temperature for previous 24 hours. M'n the corresponding minimum temperature. R'n, the rain for the previous 24 hours. The symbols used in the map are explained on the margin. At coast stations the wind symbol is placed like a vane pointing to the direction from which the wind is coming. A clear circle with it means fine weather; a circle ... cloudy weather; and a black spot, raining. Next to this symbol are figures denoting the number of miles the wind is moving per hour, next, a symbol showing the state of the sea; and, lastly, figures denoting the shade temperature ... The barometer curve shows the state of barometers round the coast from Perth to Cooktown.—Pt, Perth; Ay, Albany; Ea, Eucla; CB, Cape Borda; A, Adelaide; Ro, Robe; P, Portland; M, Melbourne; WP, Wilson's Promontory; Go, Gabo; E, Eden; M, Moruya; ... Jervis Bay, Wg, Wollongong; S, Sydney; N, Newcastle; PM, Port Macquarie; C, Clarence River; B, Brisbane; R, Rockhampton; Ct, Cooktown. Inland ... barometer is given in figures at Albury, Deniliquin, Wentworth, ... and Alice Springs. The barometer curve enables one at a glance to trace the depressions, beginning with Western Australia, and passing along eastwards; northerly winds preceding them, and southerly following.

9 A.M. OBSERVATIONS.

South Australia.—Partially clouded throughout, and in parts threatening rain; light to fresh N.E. to N.W. winds, fallen barometers, and moderate sea. Rainfall: Peake, 0·04, and Cape Borda, 0·03 inches. Extremes of barometers and temperature: Eucla, 30·18; Port Darwin, 29·85 and 83° (rainfall 0·10 inch); and M'Donnell Bay, 62°.

Victoria.—Generally cloudy and gloomy, with light to fresh N. to N.E. winds, fallen barometers, and moderate to rather rough sea. Passing showers and misty rain at Melbourne and Cape Schanck; foggy at Omeo, and squally at Wilson's Promontory. Rainfall: Ballarat, 0·45; Omeo, 0·20; and Melbourne, 0·01 inch.

Tasmania.—Threatening and gloomy in north, more or less cloudy in south parts, with light to fresh N. to E. winds, and calms, fallen barometers, and smooth sea. Extremes of barometers and temperature: Falmouth, 30·30 and 62°; Hobart, 30·20; and Low Heads, 63°.

New Zealand.—Generally fine, with N.E. to S.E. winds, and in extreme north high sea. Barometers: Russell, 30·3; Wellington, 30·4; and Bluff, 30·6.

New South Wales.—Fine in west parts, more or less cloudy in the eastern division, with rain in S.E. parts; light N.E. to S.E. winds, fallen barometers, and smooth to moderate sea. Rain has fallen in south coast and mountain districts, heaviest on the coast; Picton, Wollongong, and Cape St. George report 2·90, 2·74, and 2·52 inches respectively, Moruya had 1·80, and Bodalla 1·21 inches. Extremes of barometers and temperature: Wollongong and Sydney, 30·27; Wentworth, 30·20; Clarence, 73°; and Bathurst, 51°. Extra Stations: Camden—rainfall, 1·05 inch; Nepean flooded, water still rising steadily, only moderate flood expected; Nowra, 4·06 inches rain since 11th instant, now clearing; maximum, 71°; minimum, 60°. For further particulars see map.

Queensland.—More or less cloudy and unsettled in coast districts, raining at Mackay, and fine inland. Rainfall: Mackay, 0·21 inch. Extremes of barometers and temperature: Cooktown 30·22 and 83°; Rockhampton, 30·04; and Roma, 70°.

3 P.M. OBSERVATIONS.

Victoria.—Portland, N., 28, cloudy, smooth sea, temperature 73°; Cape Otway, E.N.E., 13, fine and cloudy, smooth sea, temperature 72°; Melbourne, N.N.E., 8, overcast and gloomy, temperature 65°; Cape Schanck, N.N.E., 18, overcast and showery, slight sea, temperature 65°; Wilson's Promontory, N.N.E., 23, overcast, gloomy, and squally, rough sea, temperature 67°; Lakes Entrance, E., 23, fine but cloudy, temperature 73°.

New South Wales.—Menindie, calm, overcast and showery, temperature 71°; Wentworth, N., 14, dull like rain, temperature 65°; Deniliquin, N.E., 14, cloudy and dull, temperature 75°; Eden, N.E., 28, raining, moderate sea, temperature 62°; Moruya, N.E., 28, fine, moderate sea, temperature 70°; Cape St. George, N., 14, cloudy, moderate sea, temperature 70°; Sydney, N.E., 5, unsettled and cool, smooth sea, temperature 68°; Newcastle, S.E., 14, fine, smooth sea, temperature 71°; Port Macquarie, S., 14, cloudy, moderate sea, temperature 80°; Clarence River, S.E., 14, fine, smooth sea, temperature 79°; Walgett, calm, cloudy, temperature 77°; Dubbo, N.W., 14, fine, temperature 75°; Goulburn, E., 14, dull, temperature 67°.

Queensland.—Townsville, S.E., 13, fine and clear, temperature 82°; Mackay, N.W., fresh and cool; Rockhampton, E.S.E., 23, fine and clear, temperature 80°; Cape Moreton, S.E., 23, overcast and showery, moderate sea, temperature 71°; Brisbane, S.E., 18, overcast, temperature 69°; Roma, N.E., 8, fine but cloudy, temperature 82°.

HEIGHT OF RIVERS ABOVE SUMMER LEVEL.

Macintyre: At Mungindi, 12 feet. Barwon: At Mogil Mogil, 14 feet; at Walgett, 24 feet 6 inches. Namoi: At Walgett, 14 feet. Culgoa: At Goodooga, 8 feet 5 inches. Darling: At Brewarrina, 16 feet 10 inches; at Bourke, 26 feet 9 inches; at Louth, 28 feet 2 inches; at Tilpa, 32 feet 9 inches; at Wilcannia, 32 feet 6 inches; at Menindie, 26 feet; at Pooncarie, 23 feet; at Wentworth, 12 feet 3 inches. Murrumbidgee: At Gundagai, 4 feet; at Wagga, 5 feet 9 inches; at Hay, 7 feet; at Balranald, 12 feet 6 inches. Murray: At Albury, 3 feet 8 inches; at Euston, 7 feet.

ASTRONOMICAL MEMORANDA FOR APRIL 15.

Sun rises at 6.24, sets at 5.36; Moon, 11.59 p.m., 12.48 p.m.; Mercury, 4.14 a.m., 4.33 p.m.; Venus, 5.55 a.m., 7.9 p.m.; Mars, 6.36 a.m., 5.46 p.m.; Jupiter, 5.56 p.m., 6.59 a.m.; Saturn, 12.41 p.m., 10.35 p.m. Full moon, 8th; new moon, 23rd.

High water at Fort Denison, 1.5 a.m., 1.31 p.m.

H. A. LENEHAN,
Acting Government Astronomer.

Stations.	wt	Mx	mn	Rn.
Albury ..	c	59	51	0·10
Armidale	f	70	54	0
Balranald	g	75	42	1·01
Bathurst	f	76	49	0
Bendem'r	b	72	53	0
Bodalla ..	b	68	61	0·48
Bourke ..	b	88	61	0
Buncarra	c	80	58	0
C'md'n H.	b	77	65	0
C. St. Geo.	b	72	59	0
Carcoar ..	b	67	41	0
Casino ..	b	82	63	0·07
Cassilis ..	o	72	64	0
Clarence .	b	80	70	0·50
C'nd'b'lin	c	82	45	0
Cooma ..	f	75	46	0
Coonab'n.	b	79	53	0
Cowra ..	b	82	56	0
Cudg'llico	u	83	61	0
Deniliq'n.	c	82	55	0·54
Dubbo ..	b	83	55	0
Eden	b	7[illegible]	[illegible]	·63
Euston ..	c	69	53	0·75
Forbes ..	b	—	53	0
Glen Inn's	b	72	51	0
Goulburn	g	79	57	0
Grafton ..	c	86	59	0
Gulgong .	n	73	50	0
Gunned'h	b	71	64	0
Hay ..	r	84	58	0·66
Inverell ..	c	77	57	0
Kiandra ..	i	60	44	0·12
Lismore. .	g	90	67	0·15
Maitland .	c	81	42	0·02
Marsdens.	b	79	62	0
Menindie.	r	73	61	0·20
Molong ..	b	65	50	0
M'r'ng'r'll	b	74	55	0
Moree ..	b	93	64	0
Moruya ..	b	73	57	0·12
Moss Vale	b	68	57	0
Mt. Hope	u	79	69	0
M. Vict'ria	b	67	51	0
Mudgee ..	u	80	53	0
M'rr'mb'h	b	78	52	0
M'rr'r'udi	b	70	59	0
Mus'lbr'k	b	76	59	0
Narrabri	h	81	64	0
Newcastle	f	75	63	0
Orange ..	b	68	52	0
Picton .	b	72	60	0
P. M'q'rie	c	77	61	0·73
P. St'ph'n	f	75	58	0
Q'nbeyan	b	66	55	0
Quirindi	b	82	60	0
Singleton	u	70	61	0
SYDNEY ..	f	70	61	0·12
Tamw'rth	g	79	55	0
Taralga ..	b	72	48	0
Taree ..	b	81	64	0
T'nt'rfield	u	72	55	0
Wagga ..	u	81	58	0
Walcha ..	f	69	47	0
Walgett ..	b	81	58	0
Warrah ..	c	76	—	0
W'ntw'rth	b	76	56	0·64
W'll'ng'ng	b	76	64	0
Young ..	b	87	50	0

SYDNEY OBSERVATORY.

LATITUDE 33° 51' 41" S. LONGITUDE 10h. 4m. 50·51s. E.

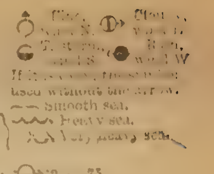
MAGNETIC VARIATION, 9° [illegible]

Average Annual Rainfall for 28 years .... 49·489

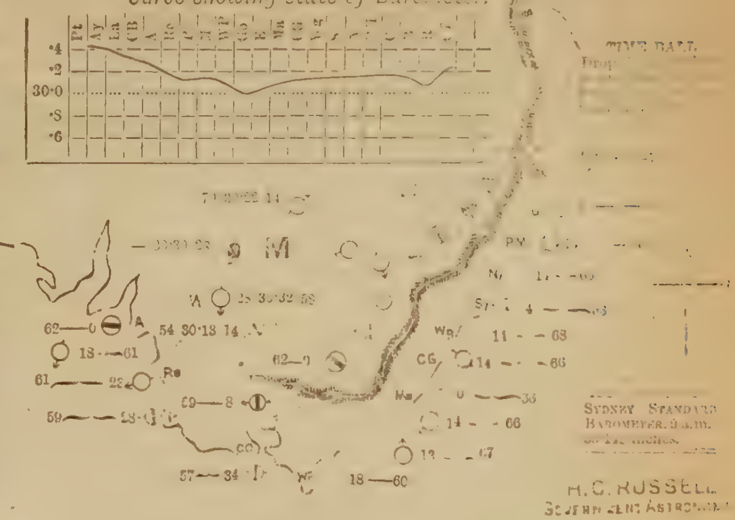
Average for 29 years from Jan. 1 to March 31 1887 .. 13·8 7

Total Rainfall from Jan. 1, to April 15, 1887 ...... 17·616

Barometers corrected to 32° Fah. and [illegible]



Curve showing state of Barometer.



NOTES EXPLANATORY OF MAP.

In the list of stations the column headed W.T. gives the state of the weather at 9 a.m.. b standing for blue sky; c, detached clouds; d, drizzling rain; f, fog; g, gloomy; h, hazy; m, misty; n, frosty; o, overcast; p, passing showers; r, rain; s, snow; t, thunder; u, threatening. The next column, M'x gives the maximum temperature for previous 24 hours. M'n the corresponding minimum temperature; R'n, the rain for the previous 24 hours. The symbols used in the map are explained on the margin. At each coast station the wind symbol is placed like a vane pointing to the direction from which the wind is coming. A clear circle with it means fine weather; a circle with bar, cloudy weather; and a black spot, raining. Next to this symbol are placed figures denoting the number of miles the wind is travelling per hour, next, a symbol showing the state of the sea; and, lastly, figures denoting the shade temperature at 9 a.m. The barometer curve shows the state of barometers round the coast from Perth to Cooktown:—Pt, Perth; Ay, Albany; Ea, Eucla; CB, Cape Borda; A, Adelaide; Ro, Robe; P, Portland; M, Melbourne; W P, Wilson's Promontory; Go, Gabo; E, Eden; Ma, Moruya; C G Jervis Bay; Wg, Wollongong; S, Sydney; N, Newcastle; P M, Port Macquarie; C, Clarence River; B, Brisbane; R, Rockhampton; Ct, Cooktown. Inland the state of barometer is given in figures at Albury, Deniliquin, Wentworth, Menindie, Bourke and Alice Springs. The barometer curve enables one at a glance to trace the depressions, beginning with Western Australia, and passing along eastwards; northerly winds preceding them, and southerly following.

9 A.M. OBSERVATIONS.

Western Australia.—Fine and clear, with moderate east winds generally; high barometers to the south, and low to north. Extremes: Cossack, 29·86; and Albany, 30·39. Highest temperature: 81° at Ashburton, and lowest, 55° at Perth.

South Australia.—Generally fine, with scattered clouds south of Burra, and in parts gloomy; light to fresh S. to S.W. winds; risen barometers and moderate sea. Rainfall: Port Augusta, 0·04, and Cape Borda, 0·01 inch. Extremes of barometers and temperature: Eucla, 30·37; Port Darwin, 29·82 and 84; M'Donnell Bay, 59°.

Victoria.—Generally cloudy and gloomy, with light rain at Omeo and Lakes Entrance; fresh to strong westerly winds, and smooth to moderate sea. Rainfall: Melbourne, 1·27; Horsham, 0·85; Cape Schanck, 0·63; and over the remainder of the colony smaller quantities. Squally on the coast. Extremes of barometers and temperature: Echuca, 30·26; Lakes Entrance, 30·06; Horsham, 65°; and Hamilton, 55°.

Tasmania.—Generally unsettled, with fresh westerly winds, fallen barometers, and moderate sea. Rain has fallen generally; heaviest at Low Heads, 0·53 inch. Extremes of barometers and temperature: Low Heads, 30·03 and 59°; Southport, 29·88 and 60°.

New Zealand.—Generally fine, with E. to S.E. winds; foggy at Bluff. S.E. wind blowing 40 miles per hour on the N.W. coast.

New South Wales.—In north and east parts generally fine, with clouds in places, fog along the range and between Sydney and Newcastle on the coast; in south and west cloudy and gloomy, with rain at Hay and Menindie; light variable winds and calms; barometers fallen along the coast, but risen to west; smooth to moderate sea. Rain has fallen along the Victorian border, and in extreme north-east parts; heaviest at Balranald. Extremes of barometers and temperature: Wentworth, 30·33; Gabo, 29·99; Bourke, 79°; and Cooma, 52°. Extra station: Bega, 0·58 inch rain fell on the 14th instant. For further particulars see map.

Queensland.—Generally fine, with clouds in places, and light to fresh easterly winds. Barometers are almost steady, and the sea smooth. Rainfall: Cape Moreton, 1·87; Brisbane, 0·12; and Cooktown, 0·09. Extremes of barometers and temperature: Cooktown 30·21 and 86°; Rockhampton, 30·04; and Brisbane, 76°.

8 P.M. OBSERVATIONS.

Victoria.—Portland, W.S.W., 34, raining and squally, smooth sea, temperature 60°; Cape Otway, W.N.W., 34, cloudy and misty, moderate sea; Melbourne, W.N.W., cloudy, temperature 66°; Cape Schanck, W.N.W., 13, cloudy, smooth sea, temperature 65°; Wilson's Promontory, W., 23, cloudy, squally, moderate sea, temperature 61°; Lakes Entrance, W., 13, light rain and misty, temperature 62°.

New South Wales.—Eden, E., 14, fine, light E. sea, temperature 68°; Moruya, E., 14, fine, moderate sea, temperature 76°; Cape St. George, N., 28, fine but cloudy, moderate sea, temperature 72°; Sydney, N.E., 7, cloudy and dull, smooth sea, temperature 70°; Newcastle, N.E., 14, fine, smooth sea, temperature 72°; Port Macquarie, N.E., 14, fine, moderate sea, temperature 76°; Dubbo, calm, fine, temperature 74°; Goulburn, W.S.W., 14, overcast, temperature 67°.

Queensland.—Cape Moreton, E., 23, fine, temperature 75°; Rockhampton, E., 18, fine but cloudy, temperature 81°; Roma, S.E., 8, cloudy, temperature 81°; Brisbane, E., 13, fine, temperature 79°; Cooktown, S.E., 8, fine and clear, smooth sea, temperature 84°; Townsville, S.E., 18, overcast, temperature 83°.

HEIGHT OF RIVERS ABOVE SUMMER LEVEL.

Macintyre: At Mungindi, 12 feet 6 inches. Barwon: At Mogil Mogil, 12 feet; at Walgett, 23 feet 4 inches. Namoi: At Narrabri, 13 feet. Culgoa: At Goodooga, 8 feet. Darling: At Brewarrina 16 feet 6 inches; at Bourke, 26 feet 6 inches; at Louth, 28 feet; at Tilpa, 33 feet 8 inches; at Wilcannia, 32 feet 6 inches; at Menindie, 26 feet 1 inch; at Pooncarie, 23 feet 2 inches; at Wentworth, 12 feet 4 inches. Murrumbidgee: At Gundagai, 4 feet; at Wagga, 8 feet 6 inches; at Hay, 6 feet 5 inches; at Balranald, 12 feet 5 inches. Murray: At Albury, 3 feet 3 inches; at Euston, 7 feet.

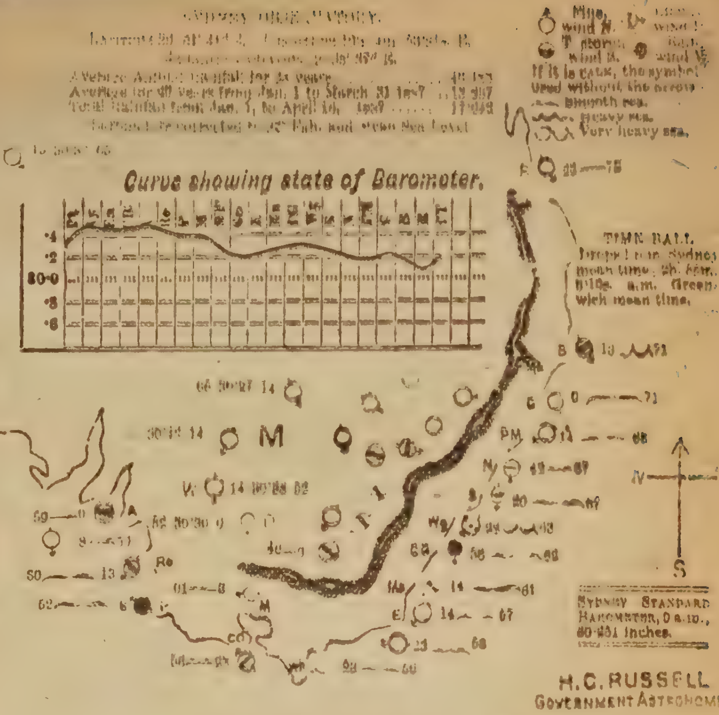
ASTRONOMICAL MEMORANDA FOR APRIL 16.

Sun rises at 6.24, sets at 5.3[illegible]; Moon, — [illegible] p.m.; Mercury, 4.15 a.m., 4.32 p.m.; Venus, 8.57 a.m., [illegible] p.m.; Mars, 6.36 a.m., 5.44 p.m.; Jupiter, 5.52 p.m., 6.55 a.m.; Saturn, 12.37 p.m., 10.31 p.m. Full moon, 8th; new moon, 23rd.

High water at Fort Denison, April 16, 2.3 a.m., 2.34 p.m.

H. A. LENEHAN,
Acting Government Astronomer.

Stations.	W.T.	Mx.	Mn.	Rn.
Albury ..	b	70	45	0·30
Armidale	f	7?	55	0
Balranald	b	7?	37	0
Bathurst	b	77	51	0
Bendem'r	f	75	53	0
Bodalla ..	g	7?	53	0·14
Bourke	b	86	61	0
Bungarra	b	8?	50	0
C'md'n H.	b	73	65	0
C. St. Geo.	f	78	59	0·21
Carcoar ..	b	67	44	0
Casino ..	c	81	63	0
Cassilis ..	c	73	58	0
Clarence .	b	82	70	0
C'ndb'lin	b	81	41	0
Cooma ..	c	71	48	0
Coonab'n.	b	81	49	0
Cowra ..	u	73	61	0
Cudg'llico	b	80	53	0
Deniliq'n.	b	72	44	0
Dubbo ..	b	82	53	0
Eden	b	71	54	0·06
Euston ..	b	74	49	0
Forbes ..	u	–	55	0·12
Glen Inn's	o	81	57	0
Goulburn	u	73	52	0·10
Grafton ..	o	88	56	0
Gulgong .	b	72	53	0
Gunned'h	b	78	60	0
Hay ..	b	89	41	0
Inverell ..	b	76	65	0
Kiandra..	f	50	38	0·45
Lismore ..	f	81	47	0·01
Maitland ..	u	81	44	0·05
Marsdens.	c	79	57	0
Menindie.	b	67	62	0
Molong	b	61	54	0·83
M'r'ng'r'll	b	70	55	0
Moree ..	b	90	63	0
Moruya ..	g	79	69	0·54
Moss Vale	r	69	54	0
Mt. Hope	b	78	60	0
M. Vict'ria	b	68	53	0·15
Mudgee ..	c	86	45	0
M'rr'mb'h	g	77	57	0
M'rr'r'ndi	c	73	59	0
Mus'lbr'k	g	82	57	0
Narrabri	b	86	61	0
Newcastle	c	76	68	0·22
Orange ..	b	68	54	0
..ton .	b	74	59	0·04
P. M'q'rie	b	77	60	0
P. St'ph'n	b	76	60	0
Q'rbeyan	c	66	56	0·50
Quirindi	b	85	59	0
Singleton	u	70	64	0
SYDNEY ..	c	72	64	0·62
Tamw'rth	b	81	64	0
Taralga ..	r	79	50	0
Taree ..	b	82	63	0
T'nt'rfield	n	80	61	0·01
Wagga ..	b	80	40	0·08
Walcha ..	c	75	48	0
Walgett ..	b	82	61	0
Warrah ..	b	80	—	0
W'ntw'rth	b	69	51	0
W'll'ng'ng	c	77	64	0
Young ..	f	87	48	0



NOTES EXPLANATORY OF MAP.

In the list of stations the column headed W.T. gives the state of the weather at 9 a.m., b standing for blue sky; c, detached clouds; d, drizzling rain; f, fog; g, gloomy; h, hazy; m, misty; o, overcast; p, passing showers; r, rain; s, snow; t, thunder; u, threatening. The next column, Mx, gives the maximum temperature for previous 24 hours. Mn the corresponding minimum temperature; Rn, the rain for the previous 24 hours. The symbols used in the map are explained on the margin. At each coast station the wind-symbol is placed like a vane pointing to the direction from which the wind is coming. A clear circle with it means fine weather; a circle with bar, cloudy weather; and a black spot, raining. Next to this symbol are placed figures denoting the number of miles the wind is blowing per hour; next, a symbol showing the state of the sea; and, lastly, figures denoting the shade temperature at 9 a.m. The barometer curve shows the state of barometers round the coast from Perth to Cooktown:—Pt, Perth; Al, Albany; Eu, Eucla; CB, Cape Borda; A, Adelaide; Re, Robe; P, Portland; M, Melbourne; WP, Wilson's Promontory; Go, Gabo; E, Eden; Mu, Moruya; CG Jervis Bay; Wg, Wollongong; S, Sydney; N, Newcastle; PM, Port Macquarie; C, Clarence River; B, Brisbane; R, Rockhampton; Ct, Cooktown. Inland the state of barometer is given in figures at Albury, Deniliquin, Wentworth, Menindie, Bourke, and Alice Springs. The barometer curve enables one at a glance to trace the depressions, beginning with Western Australia, and passing along eastwards; northerly winds preceding them, and southerly following.

9 A.M. OBSERVATIONS.

Western Australia.—Generally fine, with light easterly winds and calms; high barometers and smooth sea, except off Cossack, where it is rough. Extremes of barometers and temperature: Esperance Bay, 30·46 and 49°; Cossack, 29·98 and 79°.

South Australia.—Generally fine and pleasant, with scattered clouds on parts of the coast; light southerly winds and calms, very high barometers, and smooth sea. Extremes of barometers and temperature: Adelaide, 30·47; Port Darwin, 29·83 and 85°; M'Donnell Bay, 54°, and showery weather.

Victoria.—Generally fine and cool, with fresh to strong north-westerly to south-westerly winds, high barometers, and moderate sea. Passing showers of misty rain at Portland, hoar frost at Horsham, and squally at Wilson's Promontory. Rainfall: Omeo, 0·12; Cape Otway, 0·04; Cape Schanck, 0·03; and Portland, 0·01 inch. Extremes of barometers and temperature: Melbourne, 30·11; Lakes Entrance, 30·29; Horsham, 64°; and Omeo, 51°.

Tasmania.—Generally fine, with light to fresh north-westerly to south-westerly winds, risen barometers, and smooth to moderate sea. Southport, 0·08; and Circular Head, 0·03 inch. Extremes of barometers and temperature: Low Heads, 30·28 and 56°; Southport, 30·16 and 52°.

New Zealand.—Passing showers from south-east in extreme north; fine to southward, with north wind, and calm. Barometers in extreme north, 30·4; to south, 30·3 inch.

New South Wales.—Fine and cool in west parts, more or less cloudy, and threatening in the eastern division, with light rain near the coast south of Sydney. Stormy weather from south on the coast south of Newcastle. Barometers have risen; winds generally are light from N.E. to S.E., with calms in places, and the sea moderate, but rough off Wollongong. Rain has fallen in S.E. parts; heaviest on ranges. Extremes of barometers and temperature: Menindie, 30·42; Clarence, 30·21 and 71°; Kiandra, 44°; Tenterfield reports frost. Extra station: Bega, 0·52 inch rain on 15th instant; now stopped raining. (For further particulars see map).

Queensland.—Generally fine and cool, with clouds in S.E. parts; fresh S.E. to E. winds; steady barometers, and the sea moderate to rough. Rainfall: Mackay, 0·64; Brisbane and Cape Moreton, 0·01 inch. Extremes of barometers and temperature: Cooktown, 30·22 and 86°; Normanton, 29·99; and Roma, 59°.

3 P.M. OBSERVATIONS.

Victoria.—Portland, S.S.W., 23, fine, but cloudy, smooth sea, temperature 60°; Cape Otway, W., 13, showery, smooth sea, temperature 58°; Wilson's Promontory, W., 23, cloudy, moderate sea, temperature 62°.

New South Wales.—Menindie, S.W., fine and cool, temperature 64°; Wentworth, S.S.W., 13, fine and clear, temperature 68°; Deniliquin, S., fine and clear, temperature 68°; Eden, S.W., 7, fine, slight sea, temperature 66°; Moruya, S., dull, moderate sea, temperature 68°; Cape St. George, S., 23, cloudy, moderate sea, temperature 65°; Sydney, S., cloudy and dull, moderate sea; Newcastle, S., 28, stormy, moderate sea, temperature 65°; Port Macquarie, S., 14, unsettled, moderate sea, temperature 80°; Clarence River, S.S.E., fine, smooth sea, temperature 81°; Dubbo, S., 8, fine and cloudy, temperature 72°; Goulburn, S.S.W., dull, like rain, temperature 64°.

Queensland.—Townsville, S.E., 28, temperature 87°; Rockhampton, S.E., 28, temperature 80°; Mackay, S.E., 18, fine, but cloudy; Brisbane, S.E., 13, cloudy, temperature 76°; Roma, E., 8, overcast, temperature 79°.

HEIGHT OF RIVERS ABOVE SUMMER LEVEL.

Macintyre: At Mungindi, 11 feet. Barwon: At Mogil Mogil, 11 feet; at Walgett, 22 feet. Namoi: At Walgett, 12 feet 2 inches. Culgoa: At Goodooga, 8 feet. Darling: At Brewarrina, 16 feet 3 inches; at Bourke, 26 feet 4 inches; at Louth, 27 feet 10 inches; at Tilpa, 33 feet 7 inches; at Wilcannia, 32 feet 6 inches; at Menindie, 26 feet 1 inch; at Pooncarie, 23 feet 3 inches; at Wentworth, 12 feet. Murrumbidgee: At Gundagai, 7 feet; at Wagga, 10 feet; at Hay, 6 feet; at Balranald, 12 feet 5 inches. Murray: At Albury, 4 feet 4 inches; at Euston, 7 feet 4 inches.

ASTRONOMICAL MEMORANDA FOR APRIL 18.

Sun rises at 6.26, sets at 5.33; Moon, 1.46 a.m., 2.52 p.m.; Mercury, 4.16 a.m., 4.30 p.m.; Venus, 9.1 a.m., 7.8 p.m.; Mars, 6.35 a.m., 5.40 p.m.; Jupiter, 5.43 p.m., 6.46 a.m.; Saturn, 12.30 p.m., 10.24 p.m. Full moon, 8th; new moon, 23rd.

High water at Fort Denison, April 18, 4.18 a.m., 4.52 p.m.

H. A. LENEHAN,
Acting Government Astronomer.

SYDNEY OBSERVATORY.

LATITUDE 33° 51' 41" S. LONGITUDE 10h. 4m. 50·31s. E.

MAGNETIC VARIATION, 9° 35' 37" E.

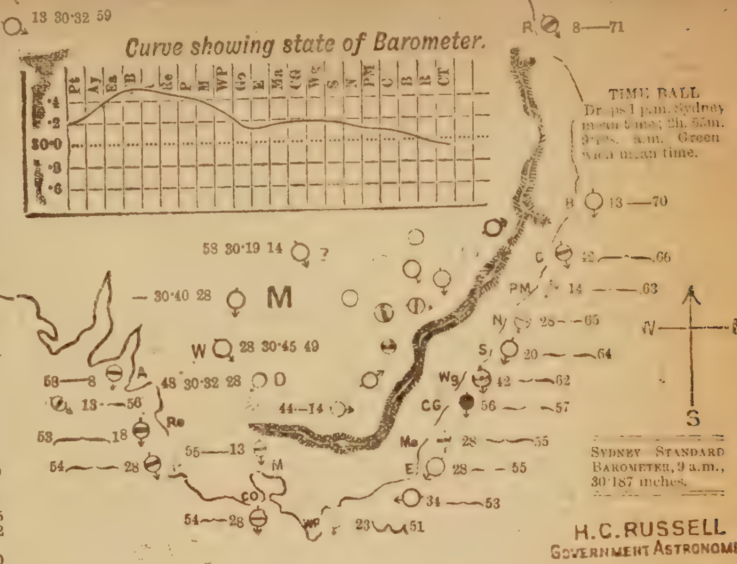
Average Annual Rainfall for 28 years .... 49·489
Average for 29 years from Jan. 1 to March 31 1887 .. 13 837
Total Rainfall from Jan. 1, to April 18, 1887 .... 18·536

Barometers corrected to 32° Fah. and Mean Sea Level

Albury ..	b	80	41	0
Armidale	u	70	54	1 51
Balranald	b	81	41	0
Bathurst	b	72	50	0·63
Bendem'r,	c	75	53	0·42
Bodalla ...	u	68	48	0·15
Bourke ..	b	78	52	0
Buncarra	c	78	55	0·04
C'md'n H.	b	76	65	1·98
C. St. Geo.	r	70	56	0·24
Carcoar ..	b	67	30	0·12
Casino ..	u	[illegible]	[illegible]	0·86
Cassilis ..	o	[illegible]	59	0·28
Clarence .	u	86	63	0
C'nd'b'lin	b	75	36	0
Cooma ..	c	67	42	0
Coonab'n.	[illegible]	71	48	0·12
Cowra ...	r	78	55	0
Cudg'llico	b	82	44	0
Deniliq'n.	b	82	42	0
Dubbo ..	b	73	54	0·34
Eden	b	68	51	0
Euston ..	b	72	41	0
Forbes ..	b	—	55	0
Glen Inn's	r	74	49	1·20
Goulburn	b	62	48	0

EUCLA 0 —58

Grafton ..	u	90	63	0
Gulgong .	u	75	50	0
Gunned'h	b	77	58	0·28
Hay	b	69	42	0
Inverell ..	b	75	52	0
Kiandra. .	g	61	31	0
Lismore. .	c	75	65	0·64
Maitland .	c	80	61	0
Marsdens.	b	78	52	0
Menindie.	b	66	49	0
Molong ..	b	56	50	0·30
M'r'ng'r'll	b	69	46	0
Moree ..	b	86	55	0
Moruya ..	g	70	53	0·05
Moss Vale	b	56	50	0·02
Mt. Hope	b	75	50	0
M. Vict'ria	c	61	47	0·30



Wind N. Wind E. T. storm, wind S. Rain, wind W. If it is calm, the symbol used without the arrow.
Smooth sea.
Heavy sea.
Very heavy sea.

TIME BALL
Drops 1 p.m. Sydney mean time; 2h. 55m. 9·[illegible]s. a.m. Greenwich mean time.

SYDNEY STANDARD BAROMETER, 9 a.m., 30·187 inches.

H. C. RUSSELL
GOVERNMENT ASTRONOMER

Mudgee ..	c	85	51	0
M'rr'mb'h	f	77	47	0·22
M'rr'r'udi	u	66	54	0·15
Mus'lbr'k	u	72	57	0·49
Narrabri	b	84	57	0·30
Newcastle	o	68	60	1·78
Orange ..	b	61	49	0·19
[illegible]ton .	b	65	50	0·01
P. M'q'rie	c	71	61	0·23
P. St'ph'n	r	71	56	1·57
Q'nbeyan	b	64	53	0
Quirindi	u	80	59	0
Singleton	g	67	62	0·20
SYDNEY ..	b	65	59	0·89
Tamw'rth	b	70	53	0
Taralga ..	n	63	45	0
Taree ..	g	71	62	6·41
T'nt'rfield	b	80	61	0·16
Wagga ..	b	77	36	0
Walcha ..	u	72	40	0·47
Walgett ..	b	81	59	0
Warrah ..	u	76	44	0
W'ntw'rth	b	67	—	0
W'll'ng'ng	o	65	57	0·01
Young ..	f	87	46	0

NOTES EXPLANATORY OF MAP.

In the list of stations the column headed W.T. gives the state of the weather at 9 a.m., b standing for blue sky; c, detached clouds; d, drizzling rain; f, fog; g, gloomy; h, hazy; m, misty; n, frosty; o, overcast; p, passing showers; r, rain; s, snow; t, thunder; u, threatening. The next column, M'x gives the maximum temperature for previous 24 hours. M'n the corresponding minimum temperature; in the rain for the previous 24 hours. The symbols used in the map are explained on the margin. At each coast station the wind symbol is placed like a vane pointing to the direction from which the wind is coming. A clear circle with it means fine weather; a circle with bar, cloudy weather; and a black spot, raining. Next to this symbol are placed figures denoting the number of miles the wind is moving per hour; next, a symbol showing the state of the sea; and, lastly, figures denoting the shade temperature at 9 a.m. The barometer curve shows the state of barometers round the coast from Perth to Cooktown:—Pt, Perth; Ay, Albany; Ea, Eucla; CB, Cape Borda; A, Adelaide; Re, Robe; P, Portland; M, Melbourne; WP, Wilson's Promontory; Go, Gabo; E, Eden; Ma, Moruya; CG, Jervis Bay; Wg, Wollongong; S, Sydney; N, Newcastle; PM, Port Macquarie; C, Clarence River; B, Brisbane; R, Rockhampton; Ct, Cooktown. Inland the state of barometer is given in figures at Albury, Deniliquin, Wentworth, Menindie, Bourke, and Alice Springs. The barometer curve enables one at a glance to trace the depressions, beginning with Western Australia, and passing along eastwards; northerly winds preceding them, and southerly following.

Western Australia.—Generally fine, with light to fresh easterly winds, almost steady barometers, and the sea smooth, but rough off Cossack. Extremes of barometers and temperature: Esperance Bay, 30·41 and 51·; Carnarvon, 29·92, and Cossack, 81·.

South Australia.—Generally overcast and gloomy south of Burra, fine in north parts, with light to fresh south to S.E. winds, high barometers, and smooth sea; shock of earthquake was felt yesterday at Streaky Bay, Wallaroo, and Moonta; it occurred between 7.30 and 7.45 a.m. Rainfall: Port Darwin, 1·09; Eucla, 0·41; Daly Waters, 0·06: and Robe, 0·03 inches. Extremes of barometers and temperature: Port Augusta and M'Donnell Bay, 30·48; the latter, 53· temperature; Port Darwin, 29·80 and 80.

Victoria.—Generally more or less cloudy and gloomy, with fresh southerly winds, high and steady barometers, and slight to rather rough sea. Rainfall: Wilson's Promontory, 0·19; Cape Schanck, 0·14; Portland, 0·08; and Melbourne, 0·01 inches. Extremes of barometers and temperature: Cape Otway, 30·41; Lakes Entrance, 30·25; Omeo, 47·; and Horsham, 62·.

Tasmania.—Generally cloudy, gloomy, and cool, with light to fresh S. to S.W. winds; slightly risen barometers, and the sea slight to moderate; but rough off Southport. Extremes of barometers and temperature: Circular Heads, 30·32 and 48·: Falmouth, 30·24 and 49·. Light rain fallen generally; heaviest at Hobart, 1·08 inch.

New Zealand.—Passing showers from S.W. in extreme south; fine to northward, with N.W. winds over centre, and S.E. winds in north. Barometers: Russell, 30·4; Wellington, 30·3; and Bluff, 30·1.

New South Wales.—Fine and cool in west parts, cloudy and unsettled in the eastern division, with light rain and fog at a few stations near the mountains and coast in south; light to fresh S.W. to S.E. winds and calms. On the coast a strong southerly wind is blowing. Barometers have fallen slightly on the coast, but risen on west parts; the sea is moderate, but heavy at Camden Haven. Rain has fallen in the eastern division, principally north, and heaviest between Hunter and Macleay rivers. Taree reports 6·41 inches, and five other stations from one to two inches. Extremes of barometers and temperature: Wentworth, 30·45; Port Macquarie, 30·07; Clarence, 65·; and Cooma, 42·. Extra stations: Hill End, rainfall, 0·28; West Maitland, 0·06 inch. (For further particulars see map).

Queensland.—Generally unsettled, with light S.E. to S. winds, fallen barometers, and slight to moderate sea. Rainfall: Brisbane, 0·82; Townsville, 0·22; Rockhampton, 0·08; and Roma, 0·09 inches. Extremes of barometers and temperature: Roma, 30·06 and 62·; Cooktown, 29·96 and 85·.

3 P.M. OBSERVATIONS.

Victoria.—Portland, S., 18, cloudy, smooth sea, temperature 54·; Cape Otway, S., 18, cloudy, smooth sea, temperature 53·; Melbourne, S., 13, overcast and gloomy, temperature 55·; Cape Schanck, S., 13, overcast, smooth sea, temperature 57·; Wilson's Promontory, S.W., 23, overcast and squally, rough sea, temperature 52·; Lakes Entrance, W., 23, threatening, temperature 59·.

New South Wales.—Menindie, S., 28, fine and cool, temperature 62·; Wentworth, S., 14, fine and clear, cool, temperature 56·; Deniliquin, S.W., fine and clear, temperature 63·; Eden, S.W., 28, fine, smooth sea, temperature 60·; Cape St. George, S., 28, cloudy and fresh, moderate sea, temperature 60·; Sydney, S., 28, stormy, moderate sea, temperature 62·; Newcastle, S.S.W., 42, fine, moderate sea, temperature 66·; Port Macquarie, S., 28, cloudy and squally, moderate sea, temperature 71·; Clarence River, S., 28, fine and fresh, moderate sea, temperature 71·; Walgett, S., 14, cloudy, temperature 75·; Dubbo, S.E., 14, fine, temperature 70·; Goulburn, E.S.E., 14, dull, temperature 64·.

Queensland.—Rockhampton, S.E., 13, threatening, temperature 77·; Mackay, S.E., 18, cloudy; Townsville, S.E., 13, cloudy, temperature 79·; Brisbane, S.E., 18, cloudy, temperature 72·; Roma, S.E., 8, fine, temperature 72·.

HEIGHT OF RIVERS ABOVE SUMMER LEVEL.

Macintyre: At Mungindi, 7 feet. Barwon: At Mogil Mogil, 7 feet 10 inches; at Walgett, 20 feet. Namoi: At Walgett, 10 feet. Culgoa: At Goodooga, 8 feet. Darling: At Brewarrina, 15 feet; at Bourke, [illegible] feet 9 inches; at Louth, 27 feet 5 inches; at Tilpa, 33 feet 2 inches; at Wilcannia, 32 feet 6 inches; at Menindie, 26 feet 2 inches; at Pooncarie, 23 feet 3 inches; at Wentworth, 12 feet 7 inches. Murrumbidgee: At Gundagai, 6 feet; at Wagga, 8 feet; at Hay, 5 feet; at Balranald, 12 feet 9 inches. Murray: At Albury, 3 feet 10 inches; at Euston, 7 feet 7 inches.

ASTRONOMICAL MEMORANDA FOR APRIL 19.

Sun rises at 6.27, sets at 5.31; Moon, 2.39 a.m., 3.25 p.m.; Mercury, 4.16 a.m., 4.29 p.m.; Venus, 9.30 a.m. 7.8 p.m.; Mars, 6.35 a.m., 5.38 p.m.; Jupiter, 5.39 p.m., 6.41 a.m.; Saturn, 12.25 p.m., 10.20 p.m. Full moon, 8th; new moon, 23rd.

High water at Fort Denison, April 19, 5.19 a.m., 4.6 p.m.

H. A. LENEHAN, Acting Government Astronomer.

METEOROLOGICAL REPORTS AND MAP FOR APRIL 19, 1887.

Stations.	WT	Mx	Mn	Rn
Albany ..	n	66	41	0
Armidale	c	65	52	0
B'lranald	b	74	4.	0
Bathurst	b	71	42	0·01
Bendem'r	c	67	48	0·10
Bodalla ..	b	68	42	0
Bourke ..	b	76	47	0
Bungarra	b	77	58	0
C'md'n H.	b	70	60	2·05
C. St. Geo.	b	67	53	0
Carcoar ..	b	63	37	0
Casino ..	c	75	59	0·02
Cassilis ..	b	66	52	0
Clarence	c	7[illegible]	61	·36
C'nd'b'ln	b	7[illegible]	39	0
Cooma ..	n	62	27	0
Coonab'n.	b	80	42	0
Cowra ..	c	71	50	0
Cudg'llico	c	76	42	0
Deniliq'n.	b	79	36	0
Dubbo ..	b	76	47	0
Eden	b	61	51	0
Euston ..	b	70	35	0
Forbes ..	b	—	53	0
Glen Inn's	b	63	48	0
Goulburn	b	63	38	0
Grafton ..	b	83	60	0
Gulgong .	b	70	43	0
Gunned'h	b	73	57	0
Hay	b	67	38	0
Inverell ..	b	72	51	0
Kiandra ..	n	58	27	0
Lismore ..	r	70	63	0·39
Maitland.	b	72	55	0
Marsdens.	b	69	52	0
Menindie.	b	62	44	0
Molong ..	b	64	48	0
M'r'ng'r'll	b	67	47	0
Moree ..	b	92	58	0
Moruya ..	b	64	48	0
Moss Vale	h	57	44	0
Mt. Hope	b	69	42	0
M. Vict'ria	b	59	38	1·98
Mudgee ..	b	85	45	0
M'rr'mb'h	g	75	45	0
M'rr'r'ndi	b	66	55	0
Mus'lbr'k	b	79	45	0
Narrabri	b	85	56	0
Newcastle	b	70	58	0·12
Orange ..	b	64	45	0
Picton ..	b	64	44	0
P. M'q'rie	c	72	56	2·14
P St'ph'n	r	68	56	0·43
Q'nbeyan	b	60	48	0
Quirindi	b	80	58	0
Singleton	b	70	56	0
SYDNEY ..	h	66	54	0·01
Tamw'rth	b	73	45	0
Taralga ..	b	71	42	0
Taree ..	b	72	58	1·28
T'nt'rfield	c	77	56	0
Wagga ..	b	72	36	0
Walcha ..	c	80	40	0·03
Walgett ..	b	77	53	0
Warrah ..	–	—	—	0
W'ntw'rth	b	64	40	0
W'll'ng'ng	b	63	55	0
Young ..	b	84	39	0

SYDNEY OBSERVATORY

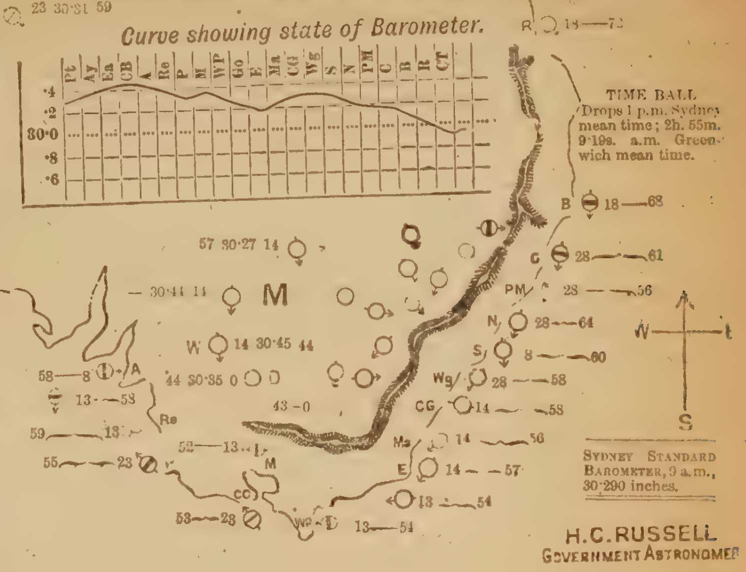
LATITUDE 33° 51′ 41″ S. LONGITUDE 10h. 4m. 50·31s. E.

MAGNETIC VARIATION, 9° 35′ 37″ E.

Average Annual Rainfall for 2[illegible] years .... 49·489
Average for 29 years from Jan. 1 to March 31 1887 .. 13·837
Total Rainfall from Jan. 1, to April 19, 1887 .... 18·542

Barometers corrected to 32 Fah. and Mean Sea Level

Fine, wind N. — Cloudy, wind E. — T. storm, wind S. — Rain, wind W.
If it is calm, the symbol used without the arrow
Smooth sea.
Heavy sea.
Very heavy sea.



TIME BALL

Drops 1 p.m. Sydney mean time; 2h. 55m. 9·19s. a.m. Greenwich mean time.

SYDNEY STANDARD BAROMETER, 9 a.m., 30·290 inches.

H. C. RUSSELL
GOVERNMENT ASTRONOMER

NOTES EXPLANATORY OF MAP.

In the list of stations the column headed W.T. gives the state of the weather at 9 a.m., b standing for blue sky; c, detached clouds; d, drizzling rain; f, fog; g, gloomy; h, hazy; m, misty; n, frosty; o, overcast; p, passing showers; r, rain; s, snow; t, thunder; u, threatening. The next column, M'x gives the maximum temperature for previous 24 hours. M'n the corresponding minimum temperature; r'n, the rain for the previous 24 hours. The symbols used in the map are explained on the margin. At each coast station the wind symbol is placed like a vane pointing to the direction from which the wind is coming. A clear circle with it means fine weather; a circle with bar, cloudy weather; and a black spot, raining. Next to this symbol are placed figures denoting the number of miles the wind is moving per hour; next, a symbol showing the state of the sea; and, lastly, figures denoting the shade temperature at 9 a.m. The barometer curve shows the state of barometers round the coast from Perth to Cooktown:—Pt, Perth; Ay, Albany; Ea, Eucla; CB, Cape Borda; A, Adelaide; Re, Robe; P, Portland; M, Melbourne; W P, Wilson's Promontory; Go, Gabo; E, Eden; Ma, Moruya; C G Jervis Bay; Wg, Wollongong; S, Sydney; N, Newcastle; P M, Port Macquarie; C, Clarence River; B, Brisbane; R, Rockhampton; Ct, Cooktown. Inland the state of barometer is given in figures at Albury, Deniliquin, Wentworth, Menindie, Bourke, and Alice Springs. The barometer curve enables one at a glance to trace the depressions, beginning with Western Australia, and passing along eastwards; northerly winds preceding them, and southerly following.

9 A.M. OBSERVATIONS.

Western Australia.—Generally fine, with light N. to E. winds, high and steady barometers, and smooth sea. Extremes of barometers and temperature: Esperance Bay, 30·48 and 56°; Cossack, 29·93; and Carnarvon, 81°.

South Australia.—Generally cloudy south of Burra, and in parts gloomy; fine, with light scattered clouds to Peake; light southerly winds and calms, slightly fallen barometers, and smooth sea. Rainfall: Port Darwin, 0·06 inch. Extremes of barometers and temperature: Adelaide and Port Augusta, 30·44 and 58°; Port Darwin, 29·79 and 79.

Victoria.—Generally cloudy, and cold, with light to fresh westerly winds, fallen barometers, and slight sea. Frosty at Omeo. Extremes of barometers and temperature: Ballarat, 30·36; Wilson's Promontory, 30·27; Horsham, 60, and Omeo, 41°.

Tasmania.—Generally threatening and gloomy, with light passing showers at places, light westerly winds, fallen barometers, and smooth sea. Extremes of barometers and temperature: Low Heads, 30·19; Southport, 29·95; Circular Heads, 55°; and Falmouth, 47°.

New Zealand.—Passing showers from east in extreme south; fine to north, with N.E. to N.W. winds, and in extreme north rough sea. Barometers: Russell, 30·4; Wellington, 30·2; and Bluff, 29·9.

New South Wales.—Generally fine and cool, with frost on the range in south; light S. to E. winds; slightly risen barometers, and smooth sea. In north coast and mountain districts a fresh S.E. wind is blowing, with cloudy weather; rain at Lismore and Port Stephens, and on the coast moderate sea, heavy at Camden Haven. Rain has fallen in north coast districts and at places on range west of the former; five stations report from 1 to over 2 inches. Extremes of barometers and temperature: Wentworth, 30·45; Port Macquarie and Gabo, 30·17; Newcastle, 64°; and Cooma, 37°. (For further particulars see map.)

Queensland.—Generally fine, with clouds in S.E. parts; fresh to strong S.E. winds, and smooth to moderate sea. Rainfall: Townsville, 0·19; Rockhampton, 0·07; Brisbane, 0·04; and Cooktown, 0·05 inch. Extremes of barometers and temperature: Brisbane, 30·13; Cooktown, 29·96; Normanton, 89°; and Roma 66°.

3 P.M. OBSERVATIONS.

Victoria.—Portland, W., 28, passing showers, smooth sea, temperature 62°; Cape Otway, W.N.W., 34, cloudy, and misty, slight sea, temperature 61°; Melbourne, S.W., 8, fine, temperature 62°; Cape Schanck, S.W., 13, cloudy, and gloomy, slight sea, temperature 60°; Wilson's Promontory, N.W., 23, cloudy and squally, moderate sea, temperature 57°; Lakes Entrance, W., 13, fine but cloudy, temperature 61°.

New South Wales.—Menindie, S.W., 28, fine and clear, cold, temperature 61°; Wentworth, S., 14, fine and clear, temperature 59°; Deniliquin, S., 14, fine, temperature 61°; Eden, calm, fine, smooth sea, temperature 64°; Moruya, E.N.E., 14, fine, smooth sea, temperature 61°; Cape St. George, calm, fine, moderate sea, temperature 64°; Sydney, S.S.W., 8, fine, smooth sea; Newcastle, S.W., 12, fine, moderate sea, temperature 67°; Port Macquarie, S., 28, fine, smooth sea, temperature 72°; Clarence River, S., 28, cloudy, moderate sea, temperature 71°; Walgett, S.E., fine, temperature 71°; Dubbo, E., 14, fine, temperature 68°; Goulburn, calm, fine, temperature 61°.

Queensland.—Townsville, calm, cloudy, temperature 81°; Rockhampton, N.E., 18, fine, temperature 78°; Roma, E., 13, fine, temperature 76°; Brisbane, S., 28, cloudy, temperature 72°.

HEIGHT OF RIVERS ABOVE SUMMER LEVEL.

Macintyre: At Mungindi, 6 feet. Barwon: At Mogil Mogil, 6 feet; at Walgett, 19 feet. Namoi: At Walgett, 9 feet. Culgoa: At Goodooga, 7 feet 9 inches. Darling: At Brewarrina, 14 feet 8 inches; at Bourke, 25 feet 6 inches; at Louth, 27 feet 3 inches; at Tilpa, 33 feet; at Wilcannia, 32 feet 6 inches; at Menindie, 26 feet 2 inches; at Pooncarie, 23 feet 3 inches; at Wentworth, 12 feet 8 inches. Murrumbidgee: At Gundagai, 5 feet 6 inches; at Wagga, 7 feet 9 inches; at Hay, 5 feet; at Balranald, 12 feet 9 inches. Murray: At Albury, 3 feet 6 inches; at Euston, 7 feet 8 inches.

ASTRONOMICAL MEMORANDA FOR APRIL 20.

Sun rises at 6.27, sets at 5.30; Moon, 3.33 a.m., 3.57 p.m.; Mercury, 4.17 a.m., 4.28 p.m.; Venus, 9.5 a.m. 7.8 p.m.; Mars, 6.35 a.m., 5.36 p.m.; Jupiter, 5.35 p.m., 6.37 a.m.; Saturn, 12.22 p.m., 10.16 p.m. Full moon, 8th; new moon, 23rd.

High water at Fort Denison, April 20, 6.13 a.m., 6.39 p.m.

H. A. LENEHAN, Acting Government Astronomer.

METEOROLOGICAL REPORTS AND MAP FOR APRIL 20, 1887.

Stations.	W.T.	Mx	M'n	R'n
Albury ..	n	67	[illegible]	0
Armidale	g	61	42	0
Balranald	b	71	40	0
Bathurst	f	67	39	0
Bendem'r	n	69	39	0
Bodalla ..	b	66	42	0
Bourke ..	b	78	50	0
Bungarra	b	76	48	0
C'md'n H.	b	70	60	0·13
C. St. Geo.	b	67	54	0
Carcoar ..	n	60	37	0
Casino ..	b	74	64	0
Cassilis ..	b	61	45	0
Clarence .	c	74	58	0·0
C'nd'b'lin	b	73	35	0
Cooma ..	n	63	32	0
Coonab'n.	n	72	35	0
Cowra ..	c	74	44	0
Cudg'llico	b	79	42	0
Deniliq'n.	b	60	40	0
Dubbo ..	b	76	43	0
Eden	b	64	53	0
Euston ..	b	68	35	0
Forbes ..	b	—	58	0
Glen Inn's	b	60	49	0
Goulburn	f	66	40	0
Grafton ..	h	81	57	0
Gulgong .	b	67	40	0
Gunned'h	b	70	49	0
Hay	b	66	41	0
Inverell ..	b	68	47	0
Kiandra ..	n	61	25	0
Lismore .	r	73	61	0·01
Maitland .	b	71	50	0
Marsdens.	b	70	51	0
Menindie.	b	61	48	0
Molong ..	b	52	36	0
M'r'ng'r'll	b	63	44	0
Moree ..	b	89	53	0
Moruya ..	b	64	51	0
Moss Vale	h	59	42	0
Mt. Hope	b	72	41	0
M. Vict'ria	b	58	40	0
Mudgee ..	b	84	39	0
M'rr'mb'h	n	69	41	0
M'rr'r'ndi	n	65	43	0
Mus'lbr'k	b	70	41	0
Narrabri	b	74	47	0
Newcastle	b	69	54	0
Orange ..	b	62	40	0
Picton ..	b	64	40	0
P. M'q'rie	b	70	55	0·04
P. St'ph'n	b	68	49	0
Q'nbeyan	f	59	45	0
Quirindi	b	80	49	0
Singleton	b	70	52	0
Sydney ..	h	65	52	0
Tamw'rth	-	—	—	-
Taralga ..	b	75	38	0
Taree ..	b	72	56	0·01
T'nt'rfield	b	72	52	0
Wagga ..	b	71	33	0
Walcha ..	f	59	34	0
Walgett ..	b	79	51	0
Warrah ..	b	69	—	0
W'ntw'rth	b	64	40	0
W'll'ng'ng	b	68	53	0
Young ..	n	81	36	0

SYDNEY OBSERVATORY.

Latitude 33° 51′ 41″ S. Longitude 10h. 4m. 50·31s. E.

Magnetic Variation, 9° 35′ 37″ E.

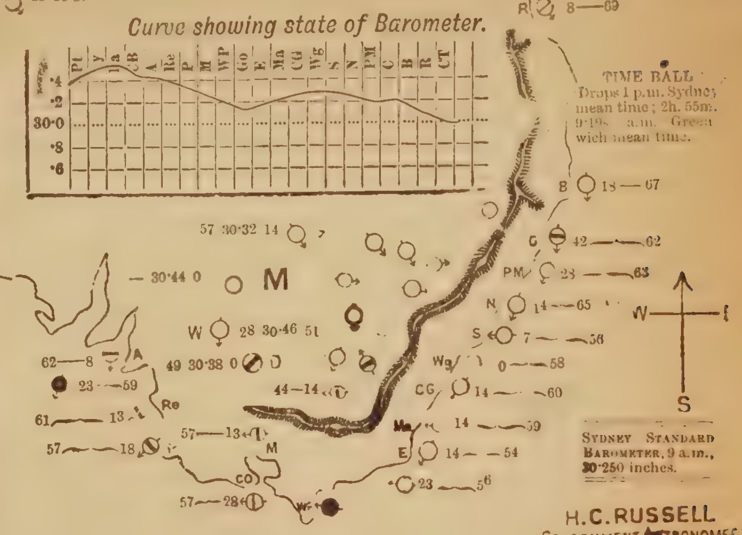
Average Annual Rainfall for 28 years ... ... 49·489

Average for 29 years from Jan. 1 to March 31 1887 .. 13·837

Total Rainfall from Jan. 1, to April 20, 1887 ...... 18·546

Barometers corrected to 32° Fah. and Mean Sea Level

Fine, wind N. Cloudy, wind E. T. storm, wind S. Rain, wind W. If it is calm, the symbol used without the arrow. Smooth sea. Heavy sea. Very heavy sea.



TIME BALL. Drops 1 p.m. Sydney mean time; 2h. 55m. 9·19s. a.m. Greenwich mean time.

Sydney Standard Barometer, 9 a.m., 30·250 inches.

H. C. RUSSELL, Government Astronomer.

NOTES EXPLANATORY OF MAP.

In the list of stations the column headed W.T. gives the state of the weather at 9 a.m., b standing for blue sky; c, detached clouds; d, drizzling rain; f, fog; g, gloomy; h, hazy; m, misty; n, frosty; o, overcast; p, passing showers; r, rain; s, snow; t, thunder; u, threatening. The next column, M'x gives the maximum temperature for previous 24 hours. M'n the corresponding minimum temperature; r'n, the rain for the previous 24 hours. The symbols used in the map are explained on the margin. At each coast station the wind symbol is placed like a vane pointing to the direction from which the wind is coming. A clear circle with it means fine weather; a circle with bar, cloudy weather; and a black spot, raining. Next to this symbol are placed figures denoting the number of miles the wind is moving per hour; next, a symbol showing the state of the sea; and, lastly, figures denoting the shade temperature at 9 a.m. The barometer curve shows the state of barometers round the coast from Perth to Cooktown:—Pt, Perth; Ay, Albany; Ea, Eucla; CB, Cape Borda; A, Adelaide; Re, Robe; P, Portland; M, Melbourne; WP, Wilson's Promontory; Go, Gabo; E, Eden; Ma, Moruya; CG Jervis Bay; Wg, Wollongong; S, Sydney; N, Newcastle; PM, Port Macquarie; C, Clarence River; B, Brisbane; R, Rockhampton; Ct, Cooktown. Inland the state of barometer is given in figures at Albury, Deniliquin, Wentworth, Menindie, Bourke, and Alice Springs. The barometer curve enables one at a glance to trace the depressions, beginning with Western Australia, and passing along eastwards; northerly winds preceding them, and southerly following.

9 a.m. OBSERVATIONS.

Western Australia.—Generally fine, with light easterly winds, high barometers, and smooth to moderate sea. Threatening rain in S.E. parts; 0·10 inch fallen at Eucla. Extremes of barometers and temperature: Esperance Bay, 30·5 and 53·; Cossack, 29·95; and Carnarvon, 79·.

South Australia.—Generally overcast, gloomy, and cold except between Yongala and Tennant's Creek, where it is fine; light southerly winds and calms, slightly risen barometers, and moderate sea. Passing showers at Cape Borda, 0·01 inch fallen; in Northern Territory, Port Darwin, 2·38; and Yam Creek, 0·35 inches rain. Extremes of barometers and temperature: Eucla, 30·48; Port Darwin, 29·84 and 74·; M'Donnell Bay, 59·.

Victoria—Generally more or less cloudy and gloomy, with fresh W. to S.W. winds, steady barometers, and moderate to rather rough sea. Squally, with passing showers, at Wilson's Promontory, 0·09 inch fallen; on the S.W. coast, 0·02 and 0·03 inches rain fallen. Extremes of barometers and temperature: Ballarat, 30·40; Lakes Entrance, 30·18; Horsham, 62; and Omeo, 42·.

Tasmania.—Generally fine but cloudy, with light to fresh westerly winds, and moderate to rough sea. Rainfall: 0·03 inch at Southport. Extremes of barometers and temperature: Low-Heads, 30·07; Hobart, 29·97 and 58·; Falmouth, 53·.

New Zealand.—Passing showers in extreme north, fine over centre, and gloomy in south; strong N.E. to N.W. winds. Barometers: Russell, 30·4; Wellington, 30·1; and Bluff, 29·8 inches.

New South Wales.—Generally fine and cool, with clouds in extreme N.E.; showers at Lismore, frosts and fogs along the dividing range, almost steady barometers, and light variable winds. Sea smooth to moderate. Light rain has fallen at a few north-coast stations; heaviest (0·13 inch) at Taree. Extremes of barometers and temperature: Wentworth, 30·46; Gabo, 30·11; Newcastle, 65·; and Cooma, 33·. (For further particulars see map.)

Queensland.—Generally cloudy and gloomy, in places threatening and cold, with fresh to strong S.E. winds, almost steady barometers, and smooth to moderate sea. Light rain falling at Normanton. Rainfall: Cooktown, 0·39; Rochampton, 0·23, and Bourketown, 0·12 inch. Extremes of barometers and temperature: Cooktown, 30· and 85·; Roma, 30·15 and 63·.

3 p.m. OBSERVATIONS.

Victoria.—Portland, S.W., 23, passing showers, moderate sea, temperature 58·; Cape Otway, W., 28, passing showers, rough sea, temperature 59·; Melbourne, W.S.W., 13, cloudy and gloomy, temperature 60·; Cape Schanck, S.W., 23, cloudy, misty and squally, moderate sea, temperature 60·; Wilson's Promontory, W., 28, passing showers, rough sea, temperature 59·; Lakes Entrance, W., 23, cloudy and squally, temperature 64·.

New South Wales.—Menindie, S.W., 14, fine and clear; Wentworth, S.E., 14, fine, temperature 58·; Deniliquin, S.W., 14, fine, temperature 62·; Eden, N.E., 14, fine, smooth sea, temperature 65·; Moruya, E.N.E., 28, fine, smooth sea, temperature 65·; Cape St. George, S., 14, fine, smooth sea, temperature 67·; Sydney, W., 6, fine, scattered clouds, smooth sea, temperature 67·; Newcastle, S.E., 14, fine, smooth sea, temperature 66·; Port Macquarie, S., 28, fine, moderate sea, temperature 74·; Clarence River, S., 14, raining, moderate sea, temperature 68·; Walgett, S.W., 14, fine and clear, temperature 75·; Dubbo, calm, fine, temperature 65·; Goulburn, calm, fine, temperature 60·.

Queensland.—Townsville, S.E., 8, misty rain, temperature 75·; Roma, S.E., 8, fine, temperature 73·; Mackay, S.E., 13, overcast; Rockhampton, S.E., 8, cloudy, temperature 73·; Brisbane, S., 13, passing showers, temperature 68·.

HEIGHT OF RIVERS ABOVE SUMMER LEVEL.

Macintyre: At Mungindi, 5 feet. Barwon: At Mogil Mogil, 6 feet 8 inches; at Walgett, 18 feet. Namoi: At Walgett, 8 feet. Culgoa: At Goodooga, 7 feet 6 inches. Darling: At Brewarrina, 14 feet 4 inches; at Bourke, 25 feet 4 inches; at Louth, 26 feet 11 inches; at Tilpa, 32 feet 10 inches; at Wilcannia, 32 feet 6 inches; at Menindie, 26 feet 3 inches; at Wentworth, 12 feet 8 inches. Murrumbidgee: At Gundagai, 5 feet; at Wagga, 7 feet; at Hay, 5 feet; at Balranald, 12 feet. Murray: At Albury, 3 feet; at Euston, 7 feet 9 inches.

ASTRONOMICAL MEMORANDA FOR APRIL 21.

Sun rises at 6.28, sets at 5.29; Moon, 4.25 a.m., 4.29 p.m.; Mercury, 4.17 a.m., 4.27 p.m.; Venus, 9.8 a.m. 7.8 p.m.; Mars, 6.34 a.m., 5.34 p.m.; Jupiter, 5.30 p.m., 6.32 a.m.; Saturn, 12.19 p.m., 10.13 p.m. Full moon, 8th; new moon, 23rd.

High water at Fort Denison, April 21, 7 a.m., 7.20 p.m.

H. A. LENEHAN, Acting Government Astronomer.

Stations.	wt	Mx	Mn	Rn.
Albury ..	n	63	41	0
Armidale	g	63	46	0
Balranald	b	76	47	0
Bathurst	f	66	38	0
Bendem'r	f	71	41	0
Bowalla ..	g	65	44	0
Bourke ..	b	77	47	0
Bungarra	b	76	48	0
C'ndl'n H.	b	71	58	0
C. St. Geo.	b	70	54	0
Carcoar ..	b	59	36	0
Casino ..	b	74	49	0·14
Cassilis ..	f	63	44	0
Clarence .	c	71	57	0·45
C'nd'b'lin	b	70	35	0
Cooma ..	c	67	37	0
Coonab'n.	b	70	34	0
Cowra ..	b	71	46	0
Cudg'llico	b	76	43	0
Deniliq'n.	b	71	44	0
Dubbo ..	b	74	41	0
Eden	b	65	52	0
Euston ..	b	76	42	0
Forbes ..	b	—	56	0
Glen Inn's	b	65	42	0
Goulburn	g	64	42	0
Grafton ..	b	77	57	0
Gulgong ..	b	67	40	0
Gunned'h	b	69	50	0
Hay ..	b	70	46	0
Inverell ..	b	68	41	0
Kiandra ..	n	60	26	0
Lismore .	b	70	55	0·17
Maitland .	b	71	50	0
Marsdens.	b	65	39	0
Menindie.	b	66	50	0
Molong ..	b	72	39	0
M'r'ng'r'll	b	67	43	0
Moree ..	b	88	50	0
Moruya ..	b	70	51	0
Moss Vale	g	58	44	0
Mt. Hope	b	73	48	0
M. Vict'ria	b	59	41	0

SYDNEY OBSERVATORY.

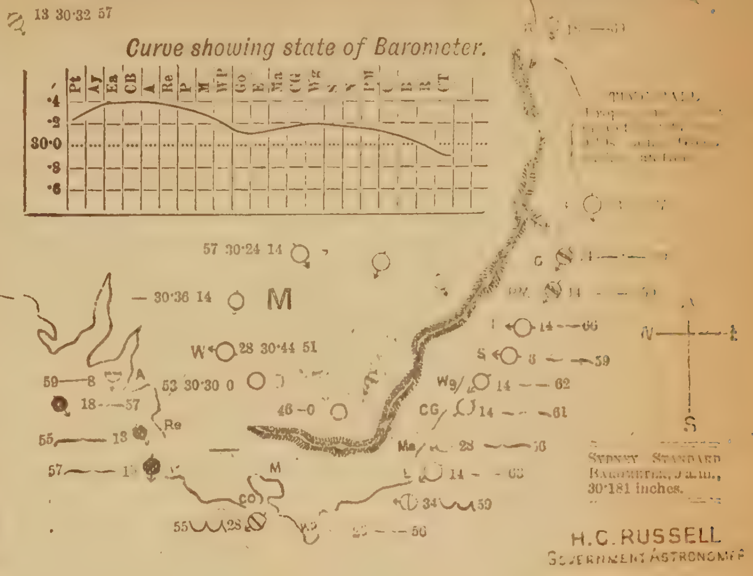
LATITUDE 33° 51' 41" S. LONGITUDE 10h. 4m. 50·31s. E.

MAGNETIC VARIATION, 9° 35' 37" E.

Average Annual Rainfall for 28 years.................49·489
Average for 29 years from Jan. 1 to March 31 1887 ..13·837
Total Rainfall from Jan. 1, to April 21, 1887 ...... 18·548

Barometers corrected to 32° Fah. and Mean Sea Level

Fine, wind N. — Rain, wind E.
T. storm, wind S. — Rain, wind W.
If it is CALM, the symbol used without the arrow.
Smooth sea.
Heavy sea.
Very heavy sea.



Stations.	wt	Mx	Mn	Rn.
Mudgee ..	h	83	41	0
M'rr'mb'h	n	67	42	0
M'rr'r'ndi	f	63	45	0
Mus'lbr'k	b	69	41	0
Narrabri	b	78	43	0
Newcastle	b	71	58	0
Orange ..	b	58	41	0
Picton .	c	65	42	0
P. M'q'rie	g	71	53	0
P. St'ph'n	c	68	48	0
Q'nbeyan	c	57	45	0
Quirindi	n	75	47	0
Singleton	b	65	52	0
SYDNEY ..	b	68	54	0
Tamw'rth	b	71	40	0
Taralga ..	b	75	33	0
Taree ..	b	74	57	0
T'nt'rfield	b	71	55	0
Wagga ..	b	68	37	0
Walcha ..	f	61	31	0
Walgett ..	b	73	48	0
Warrah ..	b	70	—	0
W'ntw'rth	b	69	47	0
W'll'ng'ng	b	71	68	0
Young ..	n	80	38	0

NOTES EXPLANATORY OF MAP.

In the list of stations the column headed W.T. gives the state of the weather at 9 a.m., b standing for blue sky; c, detached clouds; d, drizzling rain; f, fog; g, gloomy; h, hazy; m, misty; n, frosty; o, overcast; p, passing showers; r, rain; s, snow; t, thunder; u, threatening. The next column, M'x gives the maximum temperature for previous 24 hours. M'n the corresponding minimum temperature, and the rain for the previous 24 hours. The symbols used in the map are explained on the margin. At each coast station the wind symbol is placed like a vane pointing to the direction from which the wind is coming. A clear circle with it means fine weather, a circle with ... weather; and a black spot, raining. Next to this symbol are ... the number of miles the wind is moving per hour, next ... of the sea; and, lastly, figures denoting the shade temperature ... The barometer curve shows the state of barometers round the coast from Perth to Cooktown:—Pt, Perth; Ay, Albany; Ea, Eucla; CB, Cape Borda; A, Adelaide; Re, Robe; P, Portland; M, Melbourne; WP, Wilson's Promontory; Go, Gabo; E, Eden; Ma, Moruya; CG, Jervis Bay; Wg, Wollongong; S, Sydney; N, Newcastle; PM, Port Macquarie; C, Clarence River; B, Brisbane; R, Rockhampton; Ct, Cooktown. Inland the state of barometer is given in figures at Albury, Deniliquin, Wentworth, Menindie, Bourke and Alice Springs. The barometer curve enables one at a glance to trace the depressions, beginning with Western Australia, and passing along eastwards; northerly winds preceding them, and southerly following.

9 A.M. OBSERVATIONS.

Western Australia.—Generally fine, with light easterly winds, fallen barometers, and the sea smooth, but heavy off Cossack; gloomy in S.E. parts. Extremes of barometers and temperature: Esperance Bay, 30·44 and 57°; Cossack, 29·88; and Carnarvon, 79°.

South Australia—Generally overcast and gloomy south of Port Augusta, with light rain on and near the coast; light southerly winds and calms, slightly fallen barometers, and smooth sea. Rain has fallen at a few places: Penola, 0·10; Macclesfield, 0·06; and Menginie, 0·07 inches. Extremes of barometers and temperature: M'Donnell Bay, 30·41 and 55°; Port Darwin, 29·83 and 76°.

Victoria—Generally cloudy and threatening, with light rain falling at Portland and Ballarat, light to fresh W. to S. wind, steady barometers, and moderate to rather rough sea. Squally and misty on the coast. Rainfall: On and near the coast, from 0·01 to 0·08 inches. Extremes of barometers and temperature: Ballarat, 30·35; Lakes Entrance, 30·20; Horsham, 63°; and Omeo 46°.

Tasmania.—Generally fine, with clouds in south parts, light to fresh S. to westerly winds, risen barometers, and moderate to rather rough sea. Extremes of barometers and temperature: Low Heads, 30·16 and 49°; Hobart, 30·11 and 59°.

New Zealand.—Gloomy in extreme north parts, fine to southward; strong N.W. to N.E. winds. Barometers: In north, 30·2; over centre, 29·8; and in south, 29·5.

New South Wales.—Geerally fine and cool, with frost and fog along the range, with clouds at places on the coast; light variable, chiefly westerly, winds, with calms at places inland; slightly fallen barometers, and sea smooth to moderate, but rather rough off Gabo Island. Light rain has fallen at a few stations in north-coast district. Extremes of barometers and temperature: Wentworth, 30·44; Clarence, 30·08: Newcastle, 66°; and Cooma, 40°. (For further particulars see map.)

Queensland.—Fine in south parts, cloudy and gloomy in north, with passing showers at Townsville; fresh S. to S.E. winds, fallen barometers, and moderate sea. Rainfall: Townsville, 0·21; Brisbane, 0·12; Normanton and Rockhampton, 0·01 inch. Extremes of barometers and temperature: Roma, 30·09 and 57°; Cooktown, 29·92 and 81°.

3 P.M. OBSERVATIONS.

Victoria.—Portland, S., 18, cloudy, smooth sea, temperature 58°; Cape Otway, S.W., 28, gloomy and misty, moderate sea, temperature 55°; Cape Schanck, S., 13, cloudy and misty, moderate sea, temperature 61°; Wilson's Promontory, W.S.W., 23, threatening and squally, moderate sea, temperature 57°; Lakes Entrance, W.S.W., 23, fine but cloudy, temperature 61°.

New South Wales.—Menindie, S., 28, fine, temperature 62°; Wentworth, S., 14, cloudy, temperature 55°; Deniliquin, S., 14, fine, temperature 66°; Eden, S.W., 14, cloudy and like rain, smooth sea, temperature 67°; Moruya, E.N.E., 14, fine, smooth sea, temperature 64°; Cape St. George, S., 42, fine and fresh, smooth sea, temperature 65°; Sydney, S.S.W., 19, fine and squally, moderate sea, temperature 66°; Newcastle, S., 14, dull, smooth sea, temperature 66°; Port Macquarie, S., 14, cloudy and unsettled, moderate sea, temperature 71°; Clarence River, S., 28, cloudy, moderate sea, temperature 75°; Walgett, calm, fine, temperature 74°; Dubbo, S.W., 14, fine, temperature 75°; Goulburn, calm, fine, temperature 59°.

Queensland.—Brisbane, S.S.E., 13, cloudy, temperature 73°, Townsville, S., 13, fine, temperature 78°, Rockhampton, S., 23, fine, temperature 76°; Roma, S., 8, fine, temperature 73°; Cooktown, S.E., misty, rain, moderate sea, temperature 76°.

HEIGHT OF RIVERS ABOVE SUMMER LEVEL.

Macintyre: At Mungindi, 1 foot. Barwon: At Mogil Mogil, 6 feet; at Walgett, 16 feet 10 inches. Namoi: At Walgett, 7 feet. Culgoa: At Goodooga, 7 feet. Darling: At Brewarrina, 14 feet 1 inch; at Bourke, 25 feet 2 inches; at Louth, 26 feet 8 inches; at Tilpa, 32 feet 7 inches; at Wilcannia, 32 feet; at Menindie, 26 feet 3 inches; at Wentworth, 12 feet 9 inches. Murrumbidgee: At Gundagai, 4 feet 10 inches; at Wagga, 6 feet 3 inches; at Hay, 5 feet 9 inches; at Balranald, 12 feet 5 inches. Murray: At Albury, 2 feet 10 inches; at Euston, 7 feet 10 inches.

ASTRONOMICAL MEMORANDA FOR APRIL 22.

Sun rises at 6.29, sets at 5.28; Moon, 5.22 a.m., 5.4 p.m.; Mercury, 4.19 a.m., 4.27 p.m.; Venus, 9.10 a.m. 7.8 p.m.; Mars, 6.33 a.m., 5.32 p.m.; Jupiter, 5.26 p.m., 6.27 a.m.; Saturn, 12.15 p.m., 10.10 p.m. Full moon, 8th; new moon, 23rd.

High water at Fort Denison, 7.40 a.m., 8.0 p.m.

H. A. LENEHAN, Acting Government Astronomer.

Stations.	W.T.	Mx	M'n	R.
Albury	b	71	43	0
Armidale	u	60	48	0·05
Balranald	b	80	43	0
Bathurst	b	65	41	0
Bendem'r	c	70	50	0·02
Bodalla	b	66	44	0
Bourke	b	75	50	0
Buncarra	b	73	53	0
C'md'n H.	g	70	59	0·78
C. St. Geo.	c	67	60	0
Carcoar	b	60	36	0
Casino	b	78	51	0
Cassilis	o	63	48	0
Clarence	b	75	58	0
C'nd'b'lin	b	71	36	0
Cooma	c	66	39	0
Coonab'n.	g	71	41	0
Cowra	b	73	46	0
Cudg'llico	b	80	49	0
Deniliq'n.	b	75	44	0
Dubbo	b	74	43	0
Eden	b	67	55	0
Euston	b	74	42	0
Forbes	b	—	55	0
Glen Inn's	b	70	32	0
Goulburn	g	70	39	0
Grafton	b	77	56	0·03
Gulgong	b	67	43	0
Gunned'h	c	69	56	0
Hay	b	73	43	0
Inverell	b	69	51	0
Kiandra	n	63	30	0
Lismore	c	74	69	0
Maitland	r	72	52	0·72
Marsdens.	b	68	41	0
Menindie.	b	66	49	0
Molong	b	71	40	0
M'r'ng'r'll	b	67	49	0
Moree	b	89	57	0
Moruya	b	72	52	0
Moss Vale	u	58	52	0·03
Mt. Hope	b	75	51	0
M. Vict'ria	c	60	44	0
Mudgee	h	83	43	0
M'rr'mb'h	b	73	48	0
M'rr'r'ndi	o	62	49	0·12
Mus'lbr'k	r	72	45	0·11
Narrabri	h	73	55	0
Newcastle	b	71	59	1·15
Orange	b	60	46	0
Picton	c	66	42	0
P. M'q'rie	r	72	58	0·89
P. St'ph'n	c	67	56	1·70
Q'nbeyan	c	60	47	0
Quirindi	u	73	51	0·18
Singleton	u	68	59	0
SYDNEY	n	68	60	0·01
Tamw'rth	b	72	44	0·25
Taralga	g	76	44	0
Taree	g	73	59	1·10
T'nt'rfield	b	76	54	0
Wagga	b	69	37	0
Walcha	b	61	42	0·21
Walgett	b	74	50	0
Warrah	c	70	—	0·10
W'ntw'rth	b	65	44	0
W'll'ng'ng	c	73	67	0
Young	b	80	44	0

SYDNEY OBSERVATORY.

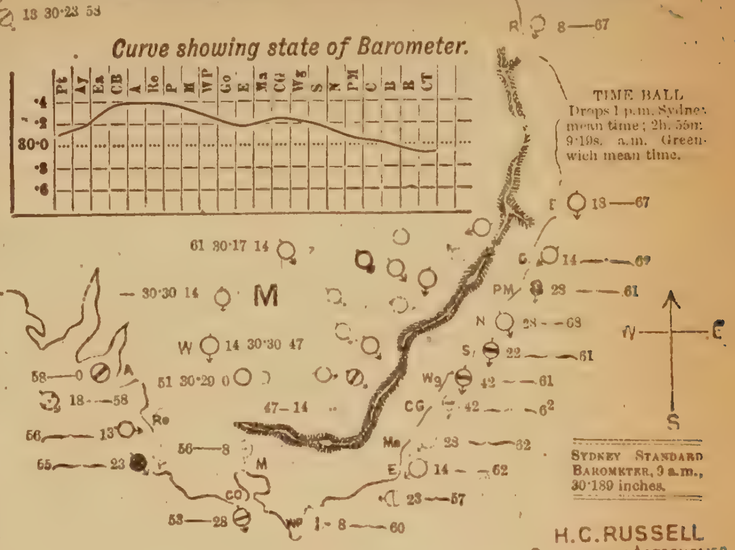
LATITUDE 33° 51' 41" S. LONGITUDE 10h. 4m. 50·81s. E.

MAGNETIC VARIATION, 9° 35' 37" E.

Average Annual Rainfall for 28 years........................40·480
Average for 29 years from Jan. 1 to March 31 1887 ..13·937
Total Rainfall from Jan. 1, to April 22, 1887 .... 15·569

Barometers corrected to 32° Fah. and Mean Sea Level

Fine, wind N. Cloudy, wind E. T. storm, wind S. Rain, wind W.
If it is CALM, the symbol used without the arrow
Smooth sea.
Heavy sea.
Very heavy sea.



H. C. RUSSELL
GOVERNMENT ASTRONOMER

NOTES EXPLANATORY OF MAP.

In the list of stations the column headed W.T. gives the state of the weather at 9 a.m., b standing for blue sky; c, detached clouds; d, drizzling rain; f, fog; g, gloomy; h, hazy; m, misty; n, frosty; o, overcast; p, passing showers; r, rain; s, snow; t, thunder; u, threatening. The next column, M'x gives the maximum temperature for previous 24 hours. M'n the corresponding minimum temperature; r'n, the rain for the previous 24 hours. The symbols used in the map are explained on the margin. At each coast station the wind symbol is placed like a vane pointing to the direction from which the wind is coming. A clear circle with it means fine weather; a circle with bar, cloudy weather; and a black spot, raining. Next to this symbol are placed figures denoting the number of miles the wind is moving per hour; next, a symbol showing the state of the sea; and, lastly, figures denoting the shade temperature at 9 a.m. The barometer curve shows the state of barometers round the coast from Perth to Cooktown:—Pt, Perth; Ay, Albany; Ea, Eucla; CB, Cape Borda; A, Adelaide; Re, Robe; P, Portland; M, Melbourne; WP, Wilson's Promontory; Go, Gabo; E, Eden; Ma, Moruya; CG Jervis Bay; Wg, Wollongong; S, Sydney; N, Newcastle; PM, Port Macquarie; C, Clarence River; B, Brisbane; R, Rockhampton; Ct, Cooktown. Inland the state of barometer is given in figures at Albury, Deniliquin, Wentworth, Menindie, Bourke, and Alice Springs. The barometer curve enables one at a glance to trace the depressions, beginning with Western Australia, and passing along eastwards; northerly winds preceding them, and southerly following.

9 A.M. OBSERVATIONS.

Western Australia.—Fine along the west coast, cloudy and gloomy in S.E. parts, with light N.E. to S.E. winds, fallen barometers, and smooth to moderate sea, except at Cossack, where it is rough. Extremes of barometers and temperature: Esperence Bay, 30·22 and 57°; Cossack, 29·91; and Carnarvon, 79°.

South Australia.—Generally more or less clouded, except in neighbourhood of Adelaide and between Port Augusta and Alice Springs, with light S.E. to E. winds, fallen barometers, and smooth sea. Rainfall: Eucla, 0·10 inch. Extremes of barometers and temperature: Cape Borda, 30·37; Port Darwin, 29·79 and 79°; M'Donnell Bay, 55°.

Victoria.—Generally cloudy and threatening, with passing showers of misty rain at Portland; light to fresh S. to W. winds, risen barometers, and smooth to moderate sea. Rainfall: Portland, 0·01; Cape Schanck, 0·02; and Wilson's Promontory, 0·07 inch. Extremes of barometers and temperature: Cape Otway, 30·37; Omeo, 30·20 and 50°; Horsham, 62°.

Tasmania.—Generally fine, with light to fresh S.E. to S.W. winds, risen barometers, and moderate sea. Rainfall: Falmouth, 0·14 inch. Extremes of barometers and temperature: Low Heads, 30·33 and 51°; Southport, 30·24; and Circular Head, 55°.

New Zealand.—On North Island, showery with strong N. to N.W. winds; in south, gloomy, with S.W. winds. Barometers: In north, 29·9; over centre, 29·7; and in south, 29·5.

New South Wales.—Fine, clear, and cool west of the ranges; cloudy, gloomy, and threatening rain in coast and mountain districts, and light rain falling at places in north coast districts. The winds along the coast are strong from S. to S.W., light from S. to S.E. inland, with calms in places. Barometers are steady on the coast, but have fallen in west parts, and the sea is moderate. Light rains have fallen in the coast and mountain districts, between Hunter and Macleay rivers; heaviest on the coast, where several stations report from one to nearly two inches. Extremes of barometers and temperature: In west parts, 30·30; Clarence, 30·00; Newcastle, 68°; and Kiandra, 35°. For further particulars see maps.

Queensland.—Generally fine, with fresh to strong S. to S.E. winds, fallen barometers, and moderate sea. Rainfall: Brisbane 0·01, and Cooktown 0·03 inch. Extremes of barometers and temperature: Roma, 30·02 and 62°; Cooktown, 29·95 and 80°.

3 P.M. OBSERVATIONS.

Victoria.—Cape Schanck, S., 13, misty rain, moderate sea, temperature 62°; Cape Otway, S., 28, overcast and misty, moderate sea, temperature 56°; Melbourne, S.S.W., 13, cloudy, temperature 59°; Portland, S.E., 23, cloudy, smooth sea, temperature 57°; Wilson's Promontory, E., 13, cloudy, smooth sea, temperature 63°; Lakes Entrance, S.W., 13, fine but cloudy, temperature 64°.

New South Wales.—Menindie, S., 28, fine and clear, temperature 62°; Wentworth, S., 14, fine and clear, temperature 58°; Deniliquin, S.W., 14, fine, temperature 65°; Eden, S.W., 14, fine but cloudy, moderate sea, temperature 65°; Moruya, S., 42, gloomy, moderate sea, temperature 64°; Cape St. George, S.E., 42, raining, moderate sea, temperature 65°; Sydney, S.S.W., 25, overcast and misty, moderate sea, temperature 61°; Newcastle, S.E., 14, showery, moderate sea, temperature 64°; Port Macquarie, S.S.E., 42, showery, moderate sea, temperature 72°; Clarence River, S., 14, cloudy, moderate sea, temperature 70°; Dubbo, S.E., 14, fine, temperature 68°; Goulburn, S., 14, dull, temperature 60°.

Queensland.—Normanton, S.E., 18, fine but cloudy, temperature 89°; Townsville, S.E., 8, fine but cloudy, temperature 67°; Roma, calm, fine and clear, temperature 74°; Brisbane, S.S.E., 13, threatening rain, temperature 74°.

HEIGHT OF RIVERS ABOVE SUMMER LEVEL.

Macintyre: At Mungindi, 5 feet. **Barwon:** At Mogil Mogil, 5 feet 8 inches; at Walgett, 14 feet 6 inches. **Namoi:** At Walgett, 5 feet 10 inches. **Culgoa:** At Goodooga, 6 feet 6 inches. **Darling:** At Brewarrina, 13 feet 10 inches; at Bourke, 24 feet 11 inches; at Louth, 26 feet 5 inches; at Wilcannia, 32 feet 6 inches; at Menindie, 26 feet 3 inches; at Wentworth, 12 feet 9 inches. **Murrumbidgee:** At Gundagai, 4 feet 6 inches; at Wagga, 6 feet; at Hay, 8 feet 11 inches; at Balranald, 12 feet 9 inches. **Murray:** At Albury, 2 feet 9 inches; at Euston, 7 feet 11 inches.

ASTRONOMICAL MEMORANDA FOR APRIL 23.

Sun rises at 6.30, sets at 5.27; Moon, 6.12 a.m., 5.32 p.m.; Mercury, 4.21 a.m., 4.26 p.m.; Venus, 9.12 a.m. 7.9 p.m.; Mars, 6.33 a.m., 5.30 p.m.; Jupiter, 5.22 p.m., 6.22 a.m.; Saturn, 12.11 p.m., 10.6 p.m. Full moon, 8th; new moon, 23rd.

High water at Fort Denison, April 23: 8.16 a.m., 8.32 p.m.

H. A. LENEHAN,
Acting Government Astronomer.

Stations.	W.T.	M'x	M'n	RN.
Albury	b	71	45	0
Armidale	b	—	—	0
Balranald	b	63	48	0
Bathurst	b	67	45	0
Bendem'r'	u	69	51	0
Bodalla	u	68	58	0
Bourke	b	79	53	0
Bundarra	u	72	56	0
C'md'n H.	b	71	61	0·62
C. St. Geo.	c	74	58	0
Carcoar	b	63	37	0
Casino	r	77	56	0·21
Cassilis	b	63	54	0
Clarence	c	73	60	2·55
C'nd'b'lin	b	71	36	0
Cooma	c	60	44	0
Coonab'n.	b	70	48	0
Cowra	b	[illegible]	54	0
Cudg'llico	b	75	47	0
Deniliq'n.	b	78	45	0
Dubbo	b	77	45	0
Eden	u	67	54	0
Euston	b	79	43	0
Forbes	b	—	51	0
Glen Inn's	c	56	39	0
Goulburn	g	61	45	0·04
EUCLA 8—61				
Grafton	u	75	55	0·20
Gulgong	b	68	45	0
Gunned'h	b	69	54	0
Hay	b	75	42	0
Inverell	b	71	50	0
Kiandra	c	47	31	0
Lismore	r	72	60	0·20
Maitland	c	69	58	0·50
Marsdens	b	71	53	0
Menindie	b	68	50	0
Molong	b	71	40	0
M'r'ng'r'll	b	67	49	0
Moree	b	90	58	0
Moruya	b	68	56	0
Moss Vale	r	56	49	0·49
Mt. Hope	b	77	56	0
M. Vict'ria	u	58	43	0·12
Mudgee	b	80	48	0
M'rr'mb'h	b	61	43	0
M'rr'r'udi	r	61	54	0·10
Mus'lbr'k	r	72	45	0·05
Narrabri	b	73	52	0
Newcastle	r	70	53	0·33
Orange	b	62	46	0
[illegible]ton	c	65	52	0
P. M'q'rie	r	73	59	0·83
P. St'ph'n	c	70	57	0·37
Q'nbeyan	c	60	48	0
Quirindi	g	69	52	0
Singleton	r	67	58	0·11
Sydney	c	64	59	0·17
Tamw'rth	b	70	48	0
Taralga	r	71	40	0·13
Taree	c	70	60	1·12
T'nt'rfield	c	[illegible]	60	0
Wagga	b	71	[illegible]	0
Walcha	u	60	[illegible]	0·06
Walgett	b	76	52	0
Warrah	g	70	—	0·04
W'ntw'rth	b	70	47	0
W'll'ng'ng	g	65	59	0·13
Young	b	82	47	0

SYDNEY OBSERVATORY.

LATITUDE 33° 51' 41" S. LONGITUDE 10h. 4m. 50·81s. E.

MAGNETIC VARIATION, 9° 35' 37" E.

Average Annual Rainfall for 28 years..................49·489
Average for 29 years from Jan. 1 to March 31 1887 ..13·837
Total Rainfall from Jan. 1, to April, 23 1887 ....18·730

Barometers corrected to 32° Fah. and Mean Sea Level

Fine, wind N. Cloudy, wind E. T. storm, wind S. Rain, wind W. If it is CALM, the symbol used without the arrow. Smooth sea. Heavy sea. Very heavy sea.

Curve showing state of Barometer.

TIME BALL. Drops 1 p.m. Sydney mean time; 2h. 55m. 9·19s. a.m. Greenwich mean time.

SYDNEY STANDARD BAROMETER, 9 a.m., 30·280 inches.

H.C.RUSSELL
GOVERNMENT ASTRONOMER

NOTES EXPLANATORY OF MAP.

In the list of stations the column headed W.T. gives the state of the weather at 9 a.m., b standing for blue sky; c, detached clouds; d, drizzling rain; f, fog; g, gloomy; h, hazy; m, misty; n, frosty; o, overcast; p, passing showers; r, rain; s, snow; t, thunder; u, threatening. The next column. M'x gives the maximum temperature for previous 24 hours. M'n the corresponding minimum temperature; r'n, the rain for the previous 24 hours. The symbols used in the map are explained on the margin. At each coast station the wind symbol is placed like a vane pointing to the direction from which the wind is coming. A clear circle with it means fine weather; a circle with bar, cloudy weather; and a black spot, raining. Next to this symbol are placed figures denoting the number of miles the wind is moving per hour; next, a symbol showing the state of the sea; and, lastly, figures denoting the shade temperature at 9 a.m. The barometer curve shows the state of barometers round the coast from Perth to Cooktown:—Pt, Perth; Ay, Albany; Eu, Eucla; CB, Cape Borda; A, Adelaide; Re, Robe; P, Portland; M, Melbourne; WP, Wilson's Promontory; Go, Gabo; E, Eden; Ma, Moruya; CG Jervis Bay; Wg, Wollongong; S, Sydney; N, Newcastle; PM, Port Macquarie; C, Clarence River; B, Brisbane; R, Rockhampton; Ct, Cooktown. Inland the state of barometer is given in figures at Albury, Deniliquin, Wentworth, Menindie, Bourke, and Alice Springs. The barometer curve enables one at a glance to trace the depressions, beginning with Western Australia, and passing along eastwards; northerly winds preceding them, and southerly following.

9 A.M. OBSERVATIONS.

Western Australia.—Generally fine, with light variable winds and calms, fallen barometers, and smooth sea. Gloomy with northerly winds in S.W. parts. Extremes of barometers and temperature: Esperance Bay, 30·03 and 54·0; Albany, 29·75; and Carnarvon, 79°.

South Australia.—Generally fine and pleasant, with light scattered clouds, north of Alice Springs; light S.E. to E., tending to .E., winds, fallen barometers, and smooth sea. Extremes of barometers and temperature: M'Donnell Bay, 30·35 and 58°; Port Darwin, 29·79 and 78°.

Victoria.—Echuca, fine with light S.W. wind; barometer, 30·40; and temperature, 58°. The telegram from other stations in Victoria came through late in afternoon, not in the general form, and without barometer readings. The weather generally cloudy, with wind from the east.

Tasmania.—Circular Head, fine, with S.E. wind; barometer, 30·39; and temperature, 54°.

New Zealand.—Showery from W. in north parts; calm and showery over centre; passing showers and strong N.W. wind in south. Barometers, generally, 29·7 inches.

New South Wales.—Fine in west parts, cloudy and threatening east of the Dividing Range, and raining in central coast districts. Winds inland are chiefly easterly and light; along the coast and in N.E. parts, strong S. and S.E. winds prevail. Barometers have risen generally. The sea is smooth to moderate, but rough off Sydney, Port Stephens, and Camden Haven. Rains have fallen over north and central coast and mountain districts; heaviest on the north coast: Clarence Heads reports 2·[illegible], and Taree 1·12 inches. Extremes of barometers and temperature: In south-west parts, 30·35; Clarence, 30·08; Newcastle, 66°; and Kiandra, 41°. For further particulars see map.

Queensland.—Generally fine and cool, with fresh to strong S. to S.E. winds, risen barometers, and moderate sea. Rainfall: Brisbane, 0·15 inch. Extremes of barometers and temperature: Cooktown, 30·11 and 81°; Normanton, 30·00; and Roma, 62°.

3 P.M. OBSERVATIONS.

New South Wales.—Menindie, E.S.E., 14, fine and clear, temperature 65°; Wentworth, E., fine, temperature 60°; Deniliquin, calm, fine and clear, temperature 69°; Eden, S.S.W., 14, fine, moderate sea, temperature 64°; Moruya, S.S.W., 28, cloudy and showery, moderate sea, temperature 65°; Cape St. George, S., 42, fresh and cloudy, moderate sea, temperature 64°; Sydney, S., cloudy, rough sea; Newcastle, S.E., fine, moderate sea, temperature 67°; Port Macquarie, S.S.E., showery, moderate sea, temperature 66°; Clarence River, S., 28, raining, moderate sea, temperature 68°; Walgett, S.E., cloudy, temperature 75°; Dubbo, E.N.E., 14, fine, temperature 68°; Goulburn, S.E., like rain, temperature 58°.

Queensland.—Normanton, calm, overcast, temperature 87°; Rockhampton, E.S.E., 13, fine and clear, temperature 76°; Townsville, S.E., 13, fine and clear, temperature 76°; Roma, fine and clear, temperature 58°.

HEIGHT OF RIVERS ABOVE SUMMER LEVEL.

Macintyre: At Mungindi, 4 feet 6 inches. **Barwon:** At Mogil Mogil, 5 feet; at Walgett, 13 feet. **Namoi:** At Walgett, 5 feet. **Culgoa:** At Goodooga, 6 feet. **Darling:** At Brewarrina, 13 feet 6 inches; at Bourke, 24 feet; at Louth, 26 feet; at Tilpa, 31 feet 10 inches; at Wilcannia, 32 feet 6 inches; at Menindie, 28 feet 4 inches; at Pooncarie, 23 feet 4 inches; at Wentworth, 12 feet 10 inches. **Murrumbidgee:** At Gundagai, 4 feet 3 inches; at Wagga, 5 feet 8 inches; at Hay, 7 feet 10 inches; at Balranald, 12 feet 5 inches. **Murray:** At Albury, 2 feet 7 inches; at Euston, 8 feet.

ASTRONOMICAL MEMORANDA FOR APRIL 25.

Sun rises at 6.31, sets at 5.24; Moon, 8.3 a.m., 6.43 p.m.; Mercury, 4.25 a.m., 4.25 p.m.; Venus, 9.16 a.m. 7.10 p.m.; Mars, 6.32 a.m., 5.25 p.m.; Jupiter, 5.14 p.m., 6.13 a.m.; Saturn, 12.4 p.m., 9.59 p.m. Full moon, 8th; new moon, 23rd.

High water at Fort Denison, April 25: 9.26 a.m., 9.43 p.m.

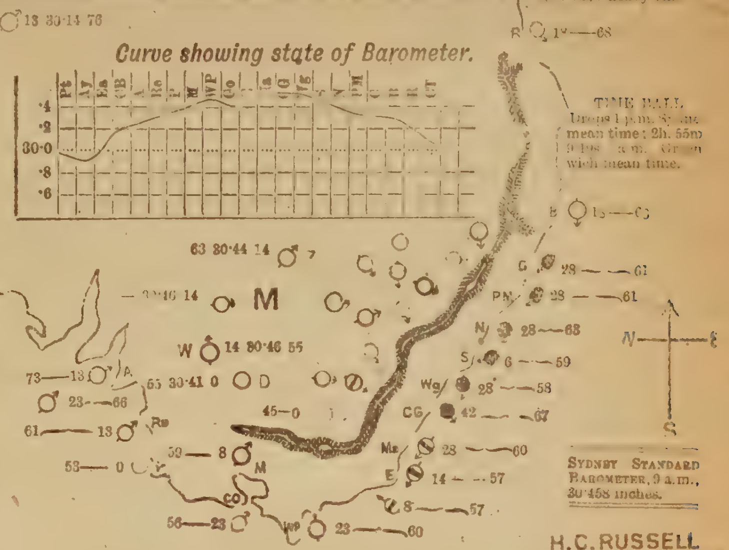
H. A. LENEHAN,
Acting Government Astronomer.

SYDNEY OBSERVATORY.

L[illegible] 33° 51′ 41″ S. Longitude 10h. 4m. 50·[illegible]s. E.

Magnetic Variation, 9° 3[illegible]′ 37″ E.

Average Annual Rainfall for 28 years....................49·489
Average for 29 years from Jan. 1 to March 31 1887 ..13 887
Total Rainfall from Jan. 1, to April, 25 [illegible]
Barometers corrected to 32° Fah. and Mean Sea Level



H.C. RUSSELL
GOVERNMENT ASTRONOMER

Stations.	W.T.	Mx	M'n	R'n
Albury ..	n	71	43	0
Armidale	u	[illegible]	47	[illegible]
Balranald	b	81	43	0
Bathurst	b	67	42	0
Bendem'r	c	69	41	0
Bodalla ..	[illegible]	68	[illegible]	0
Bourke ..	b	81	51	0
Buncarra	b	78	[illegible]	0
C'md'n H.	c	71	60	2·10
C. St. Geo.	r	67	59	0
Carcoar ..	b	[illegible]	36	0
Casino ..	b	75	50	0·32
Cassilis ..	c	62	56	0
Clarence ..	r	61	58	0·17
C'nd'b'lin	b	7[illegible]	[illegible]	0
Cooma ..	b	[illegible]	[illegible]	0
Coonab'n.	b	70	39	0
Cowra ..	b	7[illegible]	43	0
Cuurg'llico	b	82	48	0
Deniliq'n.	b	80	4[illegible]	0
Dubbo ..	b	77	44	0
Eden	b	66	53	0
Euston ..	b	82	43	0
Forbes ..	b	—	48	0
Glen Inn's	b	66	45	0
Goulburn	u	61	45	0·02
Grafton ..	r	74	54	0·04
Gulgong .	b	68	45	0
Gunned'h	b	71	52	0
Hay ..	b	76	48	0
Inverell ..	b	71	6[illegible]	0
Kiandra ..	n	50	27	0
Lismore ..	b	72	57	0·04
Maitland .	r	69	55	2·47
Marsdens.	b	71	51	0
Menindie.	b	74	53	0
Molong ..	b	51	39	0
M'r'ng'r'll	b	66	47	0
Moree ..	b	9[illegible]	50	0
Moruya ..	b	66	53	0·01
Moss Vale	r	54	50	0·33
Mt. Hope	b	77	54	0
M. Vict'ria	u	56	43	0·05
Mudgee ..	b	83	46	0
M'rr'mb'h	b	71	42	0
M'rr'r'nd'	o	63	54	0
Mus'lbr'k	u	66	53	0·33
Narrabri	b	73	51	0
Newcastle	r	68	57	1·66
Orange ..	b	59	45	0
[illegible] ..	c	64	[illegible]	0
P. M'q'rie	r	71	56	2·08
P. St'[illegible]	r	70	[illegible]	0
Q'nbey'n	c	60	48	0
Quirindi	b	73	49	0
Singleton	r	65	57	0·80
SYDNEY ..	r	6[illegible]	56	1·41
Tamw'rth	b	70	42	0
Taraiga ..	r	63	44	0
Taree ..	u	73	56	0·48
T'nt'rfield	b	68	41	0
Wagga ..	b	71	36	0
Walcha ..	g	60	41	0·03
Walgett ..	b	76	50	0
Warrah ..	c	60	—	0
W'ntw'rth	b	79	48	0
W'll'ng'ng	r	65	59	0·23
Young ..	b	74	44	0

NOTES EXPLANATORY OF MAP.

In the list of stations the column headed W.T. gives the state of the weather at 9 a.m., b standing for blue sky; c, detached clouds; d, drizzling rain; f, fog; g, gloomy; h, hazy; m, misty; n, frosty; o, overcast; p, passing showers; r, rain; s, snow; t, thunder; u, threatening. The next column, M'x gives the maximum temperature for previous 24 hours. M'n the corresponding minimum temperature; r'n, the rain for the previous 24 hours. The symbols used in the map are explained on the margin. At each coast station the wind symbol is placed like a vane pointing to the direction from which the wind is coming. A clear circle with it means fine weather; a circle with bar, cloudy weather; and a black spot, raining. Next to this symbol are placed figures denoting the number of miles the wind is moving per hour; next, a symbol showing the state of the sea; and, lastly, figures denoting the shade temperature at 9 a.m. The barometer curve shows the state of barometers round the coast from Perth to Cooktown:—Pt, Perth; Ay, Albany; Ea, Eucla; CB, Cape Borda; A, Adelaide; Re, Robe; P, Portland; M, Melbourne; W P, Wilson's Promontory; Go, Gabo; E, Eden; Ma, Moruya; C G Jervis Bay; Wg, Wollongong; S, Sydney; N, Newcastle; P M, Port Macquarie; C, Clarence River; B, Brisbane; R, Rockhampton; Ct, Cooktown. Inland the state of barometer is given in figures at Albury, Deniliquin, Wentworth, Menindie, Bourke, and Alice Springs. The barometer curve enables one at a glance to trace the depressions, beginning with Western Australia, and passing along eastwards; northerly winds preceding them, and southerly following.

9 A.M. OBSERVATIONS.

Western Australia.—In the districts lying south and east of Perth overcast and gloomy, with heavy rain falling at Albany; light to fresh N. to W. winds, fallen barometers, and moderate sea. Rainfall: Perth, 0·62; and Albany, 0·33 inches. Extremes of barometers and temperature: Perth, 30·00 and 57°; Esperance Bay, 29·88; and Eucla, 70°.

South Australia.—Generally fine, with scattered clouds north of Beltana; light to fresh N. to N. E. winds, fallen barometers, and moderate sea. Rainfall: Port Darwin, 1·23; and Daly Waters, 0·20 inch. Extremes of barometers and temperature: M'Donnell Bay, 30·39 and 60°; Port Darwin, 29·88 and 80°.

Victoria.—Generally fine, with light N. to E. winds, risen barometers, and smooth sea; heavy dew and mist in S. and E. parts. Extremes of barometers and temperature: Ballarat, 30·52; Omeo, 47°; Hamilton, 30·38; and Horsham, 63°.

Tasmania.—Generally fine, but cloudy, with light variable winds and calms, high barometers, and the sea moderate, but rough off Circular Heads; foggy at Hobart. Extremes of barometers and temperature: Low Heads, 30·57; Circular Heads, 30·50 and 59°; Hobart, 47°.

New Zealand.—In north, passing showers from S.E.; over centre, fine, with S.W. wind; in south, gloomy, with S.W. winds. Barometers: In south, 30·3; to northward, 30·1.

New South Wales.—Fine and clear west of the dividing range, with frost in south parts; overcast and threatening, with passing showers, along the coast, light to fresh S.W. to S.E. and E. winds, risen barometers, and moderate sea. Light rains have fallen in coast districts, heaviest between Sydney and Port Macquarie, where from 1·41 to 2·1[illegible] inches were recorded. Extremes of barometers and temperature: Wollongong, 30·49; Hay, 30·35; Cape St. George, 67°; and Goulburn, 40°. For further particulars see map.

Queensland.—Generally fine and cool, with light to fresh N.E. to S.E. winds, risen barometers, and smooth to moderate sea. Rainfall: Rockhampton, 0·07; and Brisbane, 0·01 inches. Extremes of barometers and temperature: Cooktown, 30·11 and 81°; Roma, 30·28 and 62°.

3 P.M. OBSERVATIONS.

Victoria.—Portland, E.S.E., 18, fine and clear, smooth sea, temperature 68°; Cape Otway, E., 18, fine and clear, smooth sea, temperature 67°; Melbourne, E.S.E., 13, fine and clear, temperature 70°; Cape Schanck, E., 13, fine and clear, smooth sea, temperature 63°; Wilson's Promontory, E.N.E., 18, fine, but cloudy, moderate sea, temperature 65°; Lakes Entrance, E., 23, fine and clear, temperature 64°.

New South Wales.—Menindie, E., 14, fine, temperature 68°; Wentworth, calm, fine, temperature 64°; Deniliquin, calm, fine, and clear, temperature 70°; Moruya, E.N.E., 14, fine, moderate sea, temperature 65°; Cape St. George, S., 28, cloudy, moderate sea, temperature 65°; Sydney, S.E., 11, fine, but cloudy, moderate sea, temperature 67°; Newcastle, E., 14, showery, moderate sea, temperature 62°; Port Macquarie, S., 28, showery, moderate sea, temperature 72°; Clarence River, S., 42, showery, moderate, temperature 70°; Walgett, E., 14, fine, temperature 67°; Dubbo, E.N.E., 14, fine, temperature 69°. Goulburn, S.E., 14, dull, temperature 59°.

Queensland.—Townsville, S.E., 13, fine, smooth sea, temperature 79°; Roma, S.E., 8, fine, temperature 75°; Brisbane, S., 18, overcast and threatening, temperature 70°.; Rockhampton, S.E., 23, fine, temperature 76°.

HEIGHT OF RIVERS ABOVE SUMMER LEVEL.

Macintyre: At Mungindi, 3 feet 6 inches. Barwon: At Mogil Mogil, 4 feet 8 inches; at Walgett, 11 feet. Namoi: At Walgett, 4 feet 10 inches. Culgoa: At Goodooga, 5 feet. Darling: At Brewarrina, 13 feet; at Bourke, 24 feet 4 inches; at Louth, 25 feet 7 inches; at Tilpa, 31 feet; at Wilcannia, 32 feet 5 inches; at Menindie, 26 feet 5 inches; at Pooncarie, 23 feet 4 inches; at Wentworth, 13 feet. Murrumbidgee: At Gundagai, 3 feet 6 inches; at Wagga, 5 feet; at Hay, 8 feet 9 inches; at Balranald, 12 feet 3 inches. Murray: At Albury, 2 feet 5 inches; at Euston, 8 feet 2 inches.

ASTRONOMICAL MEMORANDA FOR APRIL 26.

Sun rises at 6.32, sets at 5.23; Moon, 8.58 a.m., 7.24 p.m.; Mercury, 4.27 a.m., 4.25 p.m.; Venus, 9.18 a.m. 7.10 p.m.; Mars, 6.31 a.m., 5.23 p.m.; Jupiter, 5.10 p.m., 6.8 a.m.; Saturn, 12.0 p.m., 9.56 p.m. Full moon, 8th; new moon, 23rd.

High water at Fort Denison, April 26: 10.1 a.m., 10.19 p.m.

H. A. LENEHAN,
Acting Government Astronomer.

LATITUDE 33° 51' 41" S. LONGITUDE 10h. 4m. 50·81s. E.

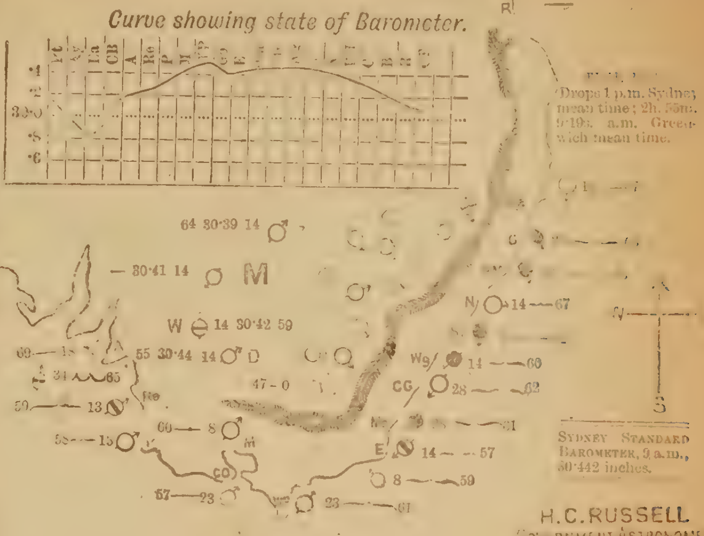
Average for 29 years from Jan. 1 to March 31 1887 ..13 837

Barometers corrected to 32° Fah. and Mean Sea Level

∧∧∧ Heavy sea
⋀⋀ Very heavy sea.

[illegible]			
Bathurst	b	[illegible]	0
Bendem'r	[illegible]	[illegible]	
[illegible]	b	[illegible]	
Bourke ..	b	[illegible]	
[illegible]	b	[illegible]	
C'md'n H.	r	[illegible]	·7
C. St. Geo.	b	[illegible]	
Carcoar ..	g	[illegible]	0
Casino ..	r	[illegible]	0·11
Cassilis	c	[illegible]	0
Clarence .	r	7[illegible]	0·51
C'nab'lin	b	[illegible]	0
Cooma	c	[illegible] 11	0
Coonab'n.	b	70 [illegible]	0
Cowra	b	74 [illegible]	0
C'ndg'llico	b	7[illegible]	0
Deni'q'n.	b	[illegible] 47	0
Dubbo ..	b	7[illegible]	0
Eden	u	66 55	0·04
Euston ..	c	85 5[illegible]	0
Forbes ..	b	[illegible]	0
Glen Inn's	[illegible]	[illegible]	0
Goulburn	b	[illegible]	0·04
EUCLA		[illegible]—61	
Grafton	r	7[illegible]	[illegible]
Gulgong .	b	68 38	0
Gunned'h	b	71 53	0
Hay	b	78 55	0
Inverell ..	b	69 43	0
Kiandra..	n	55 35	0
Lismore. .	r	72 57	0·68
Maitland.	c	71 56	0·75
Marsden..	b	72 53	0
Menindie.	b	75 56	0
Molong ..	b	54 41	0
M'r'ng'r'll	b	69 48	0
Moree ..	b	98 50	0
Moruya ..	r	69 54	0·08
Moss Vale	u	57 51	0·14
Mt. Hope	b	79 53	0
M. Vict'ria	r	55 45	0·50
Mudgee ..	b	84 48	0
M'rr'nb'h	b	65 45	0
M'rr'rndi	b	63 5[illegible]	0
Muswellb'k	g	65 54	0·16
Narrabri	b	76 51	0
Newcastle	b	6[illegible] 5[illegible]	0·35
Orange ..	b	62 47	0
Picton .	c	65 50	0·11
P. M'q'rie	r	72 [illegible]	0·[illegible]
P. St'ph'n	b	68 [illegible]	0·19
Q'rbeyan	b	60 4[illegible]	0
Quirindi	b	7[illegible]	0
Singleton	b	6[illegible] 5[illegible]	[illegible] 33
SYDNEY ..	r	67 [illegible]	·23
Tamw'rth	b	81 44	0
Taralga ..	r	[illegible]	[illegible]
Taree ..	b	7[illegible]	[illegible]
T'nt'field	[illegible]	[illegible]	[illegible]
Wagga ..	b	74 [illegible]	0
Walcha ..	c	60 43	0·49
Walgett..	b	76 52	0
Warrah ..	b	68 —	0
W'ntw'rth	c	81 56	0
W'll'ng'ng	r	68 61	0·71
Young ..	b	77 46	0

Curve showing state of Barometer.



Drops 1 p.m. Sydney mean time; 2h. 55m. 9·19s. a.m. Greenwich mean time.

SYDNEY STANDARD BAROMETER, 9 a.m., 30·442 inches.

H. C. RUSSELL
GOVERNMENT ASTRONOMER

NOTES EXPLANATORY OF MAP.

In the list of stations the column headed W. 9. gives the state of the weather at 9 a.m., b standing for blue sky; c, detached clouds; d, drizzling rain; f, fog; g, gloomy; h, hazy, [illegible] threatening. The next column [illegible] gives [illegible] hours. M'n the corresponding minimum tem[illegible] hours. The symbols used in the map are ex[illegible] the wind [illegible] placed [illegible] A clear circle [illegible] weather [illegible] and a black spot, raining. Next to this sym[illegible] the number of miles the wind is moving per hour; [illegible] sea: and heavy, figures denoting the shade te[illegible] [illegible] show the tate of barome[illegible] round [illegible] [illegible] Ay. Albany; [illegible] Melbourne; W.[illegible] [illegible] P. Perth; [illegible] given in figures at Albury, Deniliquin, Wentworth, Menindie, Bourke and Alice Springs. The barometer curve enables one at a glance to trace the [illegible] beginning with Western Australia and passing along eastwards, [illegible] ceding them, and southerly following.

9 A.M. OBSERVATIONS.

Western Australia.—Generally fine, with light variable, chiefly southerly, winds and calms, risen barometers, and smooth sea along the west coast, rough in south. Rainfall; Esperance Bay, 1·13; and Perth, 0·02 inches. Extremes of barometers and temperature: Perth, 30·16 and 44°; Esperance Bay, 29·94; and Cossack, 77°.

South Australia.—Generally overcast, gloomy, and threatening south of Farina, with fresh to strong N. to N.E. winds, fallen barometers and rough sea. Dusty and squally on and near the coast. Rainfall: Fowler's Bay, 0·23; and Eucla, 0·10 inches. No reports from Northern Territory. Extremes of barometers and temperature: M'Donnell Bay, 30·30 and 56°; Eucla, 29·82; and Adelaide, 69°.

Victoria.—Generally fine and cool, with light to fresh N. to N.E. winds, slightly fallen barometers, and smooth to moderate sea. Heavy dew in S. and E. parts; dense fog at Omeo; squally at Wilson's Promontory and Ballarat. Extremes of barometers and temperature: Omeo, 30·52 and 43°; Hamilton, 30·32; and Horsham, 63°.

Tasmania.—Generally fine, with light scattered clouds in places, light variable winds, high and steady barometers, and the sea smooth, but rough off Circular Heads. Heavy dew at Hobart; 0·04 inch rain fallen at Circular Heads. Extremes of barometers and temperature: Low Heads, 30·57; Circular Heads, 30·48 and 62°; Hobart, 47°.

New Zealand.—Gloomy in extreme south, fine to northward; winds from S. to S.W. Barometers: In north, 30·3; over centre, 30·4; and in south, 50·5 inches.

New South Wales.—Fine, clear, and cool in west parts, with frost on the ranges in south; cloudy and unsettled east of the ranges, with passing showers along the coast and over places on the ranges; light south to east winds, almost steady barometers, and moderate sea. Light rain has fallen in coast districts; heaviest in north, where several scattered stations report over half to nearly one inch. Extremes of barometers and temperature: Wollongong, 30·47; Clarence, 30·28; Newcastle, 67°; and Kiandra, 45°. Extra stations: Camden, 0·15 inch rain fallen, and still dull and showery; Gabo Island, 0·02 inch rain fallen. For further particulars see map.

Queensland.—Generally fine and cool, with light to fresh [illegible] winds, [illegible] rain: 0·01 inch at Brisbane. Heavy dew at R[illegible] barometers and temperature: Roma, 30·24 and 64°; Townsville 30·13 and 72°. No reports from north.

3 P.M. OBSERVATIONS.

Victoria.—Portland, N.E., 13, fine but cloudy, smooth sea, temperature 67°; Cape Otway, E.N.E., 28, fine, but cloudy, temperature 65°; Melbourne, N.E., fine, but cloudy, temperature 72°; Cape Schanck, N.E., 13, fine, but cloudy, smooth sea, temperature 63°; Wilson's Promontory, N.E., 23, cloudy and squally, moderate sea, temperature 63°; Lakes Entrance, E., 23, fine and hazy, temperature 66°.

New South Wales.—Menindie, N., 28, fine and warm, temperature 68°; Wentworth, calm, fine, temperature 67°; Deniliquin, calm, fine, and warm, temperature 70°; Moruya, E.N.E., 28, showery, smooth sea, temperature 63°; Cape St. George, S., 28, fine, moderate sea, temperature 68°; Sydney, S., 17, passing showers, moderate sea, temperature 64°; Newcastle, E.S.E., 14, fine, smooth sea, temperature 63°; Port Macquarie, S.E., 28, cloudy and unsettled, moderate sea, temperature 69°; Clarence River, S., 28, showery, moderate sea, temperature 70°; Walgett, calm, fine, temperature 74°; Dubbo, E., 14, fine, temperature 68°; Goulburn, S.E., 14, dull, temperature 59°.

Queensland.—Rockhampton, E.S.E., 23, fine, temperature 76°; Normanton, S.E., 13, sultry, temperature 97°.

HEIGHT OF RIVERS ABOVE SUMMER LEVEL.

Macintyre: At Mungindi, 3 feet. Barwon: At Mogil Mogil, 4 feet 10 inches; at Walgett, 10 feet. Namoi: At Walgett, 4 feet. Culgoa: At Goodooga, 4 feet 6 inches. Darling: At Brewarrina, 12 feet 6 inches; at Bourke, 24 feet; at Louth, 25 feet 4 inches; at Tilpa, 30 feet 8 inches; at Wilcannia, 32 feet 5 inches; at Menindie, 26 feet 5 inches; at Pooncarie, 23 feet 4 inches; at Wentworth, 13 feet 1 inch. Murrumbidgee: At Gundagai, 3 feet 6 inches; at Wagga, 5 feet; at Hay, 8 feet 9 inches; at Balranald, 12 feet 2 inches. Murray: At Albury, 2 feet 3 inches; at Euston, 8 feet 6 inches.

ASTRONOMICAL MEMORANDA FOR APRIL 27.

Sun rises at 6.33, sets at [illegible]; Moon, 9.54 a.m., 8.8 [illegible] p.m.; Mars, 6.31 a.m., 5.21 p.m.; Jupiter, 5.6 p.m., 6.3 a.m. [illegible] 23rd.

High water at Fort Denison, April 27: 10.38 a.m., 10.56 p.m.

H. A. LENEHAN,

Stations.	W.T.	Mx.	Mn.	Rn.
Albury ..	n	72	44	0
Armidale	n	60	45	0
Balranald	b	90	45	0
Bathurst	b	67	45	0
Bendem'r	u	67	38	0
Bodalla ..	b	65	58	0·12
Bourke ..	b	81	54	0
Buncarra	b	74	49	0
C'md'n H.	c	71	61	0·17
C. St. Geo.	c	68	58	0
Carcoar ..	b	62	36	·0
Casino ..	b	74	50	0·09
Cassilis ..	r	65	57	0·11
Clarence .	r	72	59	0·72
C'nd'b'lin	b	72	35	0
Cooma ..	f	65	36	0·02
Coonab'n.	b	71	37	0
Cowra ..	o	74	47	0
Cudg'llico	u	79	56	0
Deniliq'n.	g	80	53	0
Dubbo ..	b	74	43	0
Eden	b	61	59	0·07
Euston ..	b	84	53	0
Forbes ..	b	—	44	0
Glen Inn's	b	64	44	0
Goulburn	g	64	45	0
Grafton ..	b	74	54	0·09
Gulgong .	b	69	41	0
Gunned'h	b	71	52	0
Hay	b	78	55	0
Inverell ..	b	71	45	0
Kiandra. .	n	53	31	0
Lismore. .	r	73	57	0·36
Maitland .	g	69	55	0·04
Marsdens.	o	72	55	0
Menindie.	b	75	58	0
Molong ..	b	54	39	0
M'r'ng'r'll	g	69	49	0
Moree ..	b	88	49	0
Moruya ..	b	66	56	0·17
Moss Vale	r	58	50	0·06
Mt. Hope	u	77	54	0
M. Vict'ria	u	53	45	0·18
Mudgee ..	u	79	44	0
M'rr'mb'h	c	71	44	0
M'rr'r'ndi	o	65	55	0
Mus'lbr'k	u	71	53	0·15
Narrabri	b	75	53	0
Newcastle	r	70	58	0·17
Orange ..	b	63	46	0
Picton .	o	65	50	0
P. M'q'rie	u	72	58	0·62
P. St'ph'n	b	70	56	0·08
Q'nbeyan	b	62	49	0
Quirindi	b	76	51	0
Singleton	b	69	59	0·20
SYDNEY ..	b	68	57	0·28
Tamw'rth	–	—	—	–
Taralga ..	b	65	40	0
Taree ..	r	72	57	0·34
T'nt'rfield	b	63	47	0
Wagga ..	g	73	42	0
Walcha ..	b	58	35	0·05
Walgett ..	b	75	52	0
Warrah ..	u	72	—	0
W'ntw'rth	b	80	58	0
W'll'ng'ng	r	68	60	0·07
Young ..	g	79	47	0

SYDNEY OBSERVATORY.

LATITUDE 33° 51' 41" S. LONGITUDE 10h. 4m. 50·31s. E.

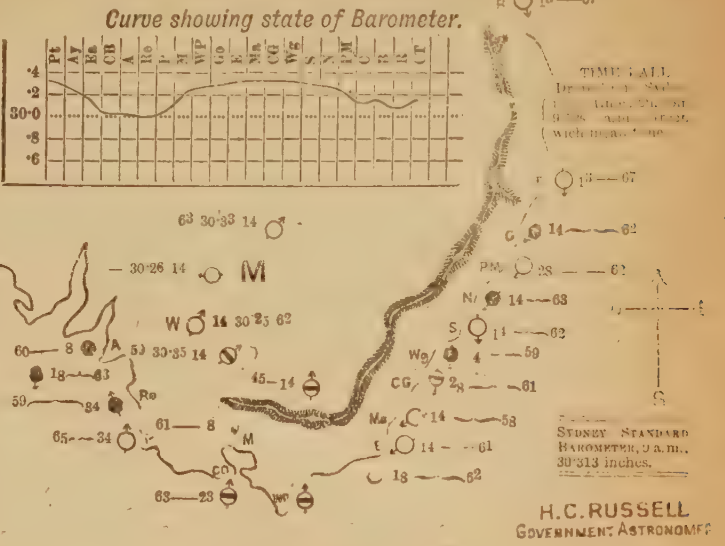
MAGNETIC VARIATION, 9° 35' 37" E.

Average Annual Rainfall for 28 years ....

Average for 29 years from Jan. 1 to March 31 1887 ....

Total Rainfall from Jan. 1, to April, 27 1887 ...... 20·848

Barometers corrected to 32° Fah. and Mean Sea Level



NOTES EXPLANATORY OF MAP.

In the list of stations the column headed W.T. gives the state of the weather at 9 a.m., b standing for blue sky; c, detached clouds; d, drizzling rain; f, fog; g, gloomy; h, hazy; m, misty; n, frosty; o, overcast; p, passing showers; r, rain; s, snow; t, thunder; u, threatening. The next column, M'x gives the maximum temperature for previous 24 hours. M'n the corresponding minimum temperature; r'n, the rain for the previous 24 hours. The symbols used in the map are explained on the margin. At each coast station the wind symbol is placed like a vane pointing to the direction from which the wind is coming. A clear circle with it means fine weather; a circle with bar, cloudy weather; and a black spot, raining. Next to this symbol are placed figures denoting the number of miles the wind is moving per hour, next, a symbol showing the state of the sea; and, lastly, figures denoting the shade temperature at 9 a.m. The barometer curve shows the state of barometers round the coast from Perth to Cooktown:—Pt, Perth; Ay, Albany; Ea, Eucla; CB, Cape Borda; A, Adelaide; Re, Robe; P, Portland; M, Melbourne; WP, Wilson's Promontory; Go, Gabo; E, Eden; Ma, Moruya; CG, Crookhaven; Bay; Wg, Wollongong; S, Sydney; N, Newcastle; PM, Port Macquarie; C, Clarence River; B, Brisbane; R, Rockhampton; Ct, Cooktown. Inland the state of barometer is given in figures at Albury, Deniliquin, Wentworth, Menindie, Bourke, and Alice Springs. The barometer curve enables one at a glance to trace the depressions, beginning with Western Australia, and passing along eastwards; northerly winds preceding them, and southerly following.

9 A.M. OBSERVATIONS.

Western Australia.—Generally fine, with south to east winds and smooth to moderate sea, but rough off Cossack and Esperance Bay. Extremes of barometers and temperature: Perth, 30·29; Cossack, 30·00; Cossack, 77·; Perth, 43·.

South Australia.—Generally overcast and threatening, with showers of light rain; light to fresh south to west winds and moderate sea, but rough off Robe. Rain has fallen principally along the coast, the heaviest being at Streaky Bay (1.01 inch) and Elliston (0·96 inch). Extremes of barometers and temperature: Alice Springs, 30·26; Port Darwin, 29·84; Port Darwin, 80·; Eucla, 58·.

Victoria.—Generally cloudy, gloomy, and threatening, with fresh to strong northerly winds, fallen barometers, and smooth to moderate sea. Heavy dew in S.E. parts; dense fog at Omeo. Extremes of barometers and temperature: Wilson's Promontory, 30·28; Portland, 30·00; Horsham, 64·; and Omeo, 43·.

Tasmania.—Cloudy in north, and fine in south parts, with fresh to strong north to east winds, fallen barometers, and the sea moderate, but rough off Circular Heads. Extremes of barometers and temperature: Low Heads, 30·35; Circular Heads, 30·25 and 60·; Hobart, 51·.

New Zealand.—Heavy rain in north, overcast over centre, and fine in south. Barometers: In north, 30·4; to southward, 30·6.

New South Wales.—Fine, with clouds at places in south parts west of the ranges; in coast districts unsettled, with passing showers in places, principally in north; light N. to E. winds inland, fresh to strong southerly on the coast; fallen barometers, and smooth to moderate sea. Light rains have fallen on and near the coast; heaviest on the Clarence and Macleay Rivers. Extremes of barometers and temperature: Deniliquin, 30·35; Clarence, 30·17; Bourke and Newcastle, 63·; Cooma, 37·. For further particulars see map.

Queensland.—Generally fine and cool, with showers at Mackay; light to fresh S. to S.E. winds, fallen barometers, and the sea smooth to moderate, but rather rough at Cooktown. Rainfall: Mackay, 0·20; and Brisbane, 0·01 inch. Extremes of barometers and temperature: Roma, 30·17 and 63·; Townsville, 30·00 and Cooktown, 83·.

3 P.M. OBSERVATIONS.

Victoria.—Portland, N.N.W., 34, cloudy, showery, smooth sea; temperature 61·; Cape Otway, N., 28, fine but cloudy, moderate sea, temperature 60·; Melbourne, N., 13, fine, temperature 70·; Cape Schanck, N., 23, fine but cloudy, slight sea, temperature 64·; Wilson's Promontory, N.N.E., 18, cloudy and gloomy, moderate sea, temperature 61·; Lakes Entrance, E., 23, fine but cloudy, temperature 66·.

New South Wales.—Menindie, N., 42, fine and hot, temperature 61·; Wentworth, N., 14, dull and warm, temperature 64·; Deniliquin, calm, fine, temperature 71·; Eden, N.E., 14, fine, moderate sea, temperature 65·; Moruya, E., 14, fine, smooth sea, temperature 65·; Cape St. George, S., 28, fine but cloudy, moderate sea, temperature 64·; Sydney, S.W., 11, cloudy and misty, moderate sea, temperature 62·; Newcastle, S.W., 14, fine, smooth sea, temperature 68·; Port Macquarie, S., 28, unsettled, moderate sea, temperature 72·; Clarence River, W., 43, showery, moderate sea, temperature 68·; Dubbo, calm, fine but cloudy, temperature 68·; Goulburn, S.E., 14, fine, temperature 60·.

Queensland.—Normanton, S.E., 13, fine but cloudy, temperature 100·; Townsville, S.E., 13, fine and clear, temperature 76·; Rockhampton, N.E., 13, fine and clear, temperature 75·; Roma, S.S.E., 14, cloudy, temperature 75·; Brisbane, S., 18, overcast, temperate 66·.

HEIGHT OF RIVERS ABOVE SUMMER LEVEL.

Macintyre: At Mungindie, 3 feet 6 inches. Barwon: At Mogil Mogil, 4 feet 8 inches; at Walgett, 9 feet. Namoi: At Walgett, 3 feet 6 inches. Culgoa: at Goodooga, 4 feet 1 inch. Darling: At Brewarrina, 11 feet; at Bourke, 23 feet 9 inches; at Louth, 25 feet 1 inch; at Tilpa, 30 feet 5 inches; at Wilcannia, 32 feet 4 inches; at Menindie, 26 feet 5 inches; at Pooncarie, 23 feet 4 inches; at Wentworth, 13 feet 2 inches. Murrumbidgee: At Gundagai, 3 feet 6 inches; at Hay, 8 feet; at Balranald, 12 feet 2 inches. Murray: At Albury, 2 feet; at Euston, 8 feet 9 inches.

ASTRONOMICAL MEMORANDA FOR APRIL 28.

Sun rises at 6.34, sets at 5.21; Moon, 10.28 a.m.; 8.58 p.m., Mercury, 4.30 a.m., 4.24 p.m.; Venus, 9.21 a.m., 7.11 p.m.; Mars, 6.30 a.m., 5.18 p.m.; Jupiter, 5.1 p.m., 5.59 p.m.; Saturn, 11.53 p.m., 9.49 p.m. Full moon, 8th; new moon, 23rd. High water at Fort Denison, April 28: 11.17 a.m., 11.38 p.m.

H. A. LENEHAN,
Acting Government Astronomer.

Stations	W.T.	M'x	M'n	R'n
Albury ..	a	67	45	
Armidale				
Balranald		85	51	0
Bathurst	f	65	42	0
Bendem'r	b	70	43	0
Bedalla ..	b	71	44	0
Bourke ..	b	84	52	0
Bungarra	b	74	44	0
C'md'n H.	c	71	62	0·45
C. St. Geo.	b	67	54	0
Carcoar ..	b	60	36	0
Casino ..	b	75	48	0·01
Cassilis ..	b	64	60	0
Clarence ..	b	71	59	0·05
C'nd'b'lin	b	74	32	0
Cooma ..	c	70	31	0
Coonab'n.	b	70	35	0
Cowra ..	b	75	41	0
Cudg'llico	b	80	48	0
Deniliq'n.	r	81	50	0
Dubbo ..	b	75	40	0
Eden	b	66	56	0
Euston ..	g	85	56	0·10
Forbes ..	b	-	44	0
Glen Inn's	b	55	44	0
Goulburn	f	61	43	0
Grafton ..	b	73	51	0
Gulgong ..	b	67	39	0
Gunned'h	b	69	50	0
Hay	r	77	56	0
Inverell ..	b	69	42	0
Kiandra ..	f	58	23	0
Lismore ..	r	71	52	0
Maitland ..	b	69	57	0·06
Marsdens.	b	73	52	0
Menindie.	b	78	61	0
Molong ..	b	55	38	0
M'r'ng'r'll	b	68	45	0
Moree ..	b	88	47	0
Moruya ..	b	68	50	0
Moss Vale	f	58	48	0
Mt. Hope	c	79	54	0
M. Vict'ria	b	58	43	0·08

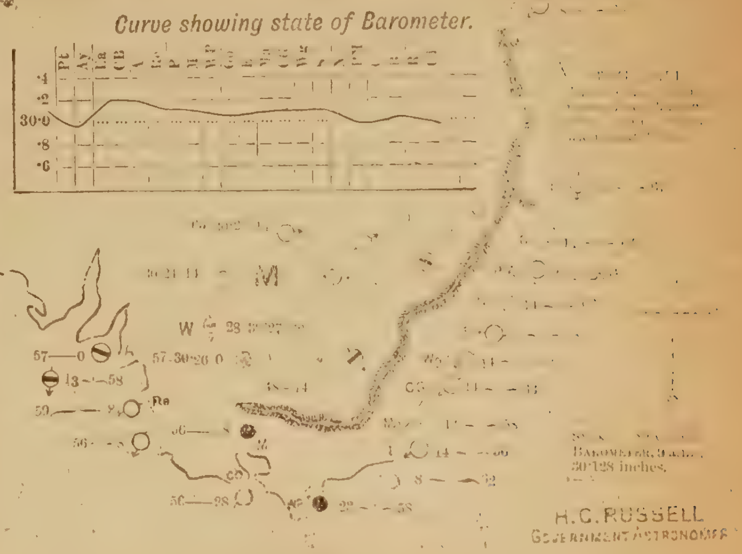
SYDNEY OBSERVATORY.

LATITUDE 33° 51' 41" S. LONGITUDE 10h. 4m. [illegible] E.

MAGNETIC VARIATION, 9° 35' 37" E.

Average Annual [illegible] for [illegible] years [illegible]
Average for 29 years from Jan. 1 to March 31 1887 .. 13·837
Total Rainfall from Jan. 1, to April, 28 1887 .... .. 20·705
Barometers corrected to 32° Fah. and Mean Sea Level

Curve showing state of Barometer.



H. C. RUSSELL
GOVERNMENT ASTRONOMER

Stations	W.T.	M'x	M'n	R'n
Mudgee ..	h	78	38	0
M'rr'mb'h	f	69	42	0
M'rr'r'ndi	c	63	56	0
Mus'lbr'k	g	71	52	0·02
Narrabri	b	75	50	0
Newcastle	b	72	58	0·34
Orange ..	b	65	41	0
Picton ..	b	65	45	0·01
P. M'q'rie	b	72	57	0·31
P. St'ph'n	r	69	54	0·51
Q'nbeyan	f	60	46	0
Quirindi	b	73	49	0
Singleton	b	68	55	0·11
SYDNEY ..	b	64	55	0·06
Tamw'rth	f	71	39	0
Taralga ..	b	65	44	0
Taree ..	b	72	59	0·06
T'nt'rfield	b	65	38	0
Wagga ..	c	72	40	0
Walcha ..	c	61	45	0
Walgett ..	b	75	48	0
Warrah ..	b	69	—	0
W'ntw'rth	g	78	56	0·11
W'll'ng'ng	b	66	55	0·03
Young ..	b	77	41	0

NOTES EXPLANATORY OF MAP.

In the list of stations the column headed W.T. gives the state of **the weather at 9 a.m.**, b standing for blue sky; c, detached clouds; d, drizzling rain; f, fog; g, gloomy; h, hazy; m, misty; n, frosty; o, overcast; p, passing showers; r, rain; s, snow; t, thunder; u, threatening. The next column, M'x gives the maximum temperature for previous 24 hours. M'n the corresponding minimum temperature; r'n, the rain for the previous 24 hours. The symbols used in the map are explained on the margin. At each coast station the wind symbol is placed like a vane pointing to the direction from which the wind is coming. A clear circle with it means fine weather; a circle with bar, cloudy weather; and a black spot, raining. Next to this symbol are placed figures denoting the number of miles the wind is moving per hour; next, a symbol showing the state of the sea; and, lastly, figures denoting the shade temperature at 9 a.m. The barometer curve shows the state of barometers round the coast from Perth to Cooktown:—Pt, Perth; Ay, Albany; Ea, Eucla; CB, Cape Borda; A, Adelaide; Re, Robe; P, Portland; M, Melbourne; WP, Wilson's Promontory; Go, Gabo; E, Eden; Ma, Moruya; CG, Jervis Bay; Wg, Wollongong; S, Sydney; N, Newcastle; PM, Port Macquarie; C, Clarence River; B, Brisbane; R, Rockhampton; Ct, Cooktown.—Inland the state of barometer is given in figures at Albury, Deniliquin, Wentworth, Menindie, Bourke, and Alice Springs. The barometer curve enables one at a glance to trace the depressions, beginning with Western Australia, and passing along eastwards; northerly winds preceding them, and southerly following.

9 A.M. OBSERVATIONS.

Western Australia.—Generally more or less cloudy and unsettled, with easterly winds along the west coast, and N. to N.W. in south parts; fallen barometers and smooth sea. Extremes of barometers and temperature: Esperance Bay, 30·12 and 49°; Carnarvon, 29·92 and 74°.

South Australia.—Generally overcast and gloomy on and near the coast north of Port Pirie; light southerly winds and calms, fallen barometers, and moderate sea. Light rains have fallen north of Port Augusta; greatest in S.E. parts; Naracoorte 0·51, Morphetvale 0·50, Port Darwin 0·30, Robe 0·23, Port Augusta and Adelaide 0·21 inch. Extremes of barometers and temperature: Alice Springs 30·26, Port Darwin 29·83 and 81°, M'Donnell Bay 54°.

Victoria.—Fine but unsettled in west; cloudy, with light rain falling in east parts; light to fresh westerly winds, fallen barometers, and moderate sea. Rainfall: Melbourne, 0·20; Cape Schanck, 0·16; Portland and Hamilton, 0·13 inches. Extremes of barometers and temperature: Ballarat, 30·22 and 51°; Lakes Entrance, 30·04; and Horsham, 65°.

Tasmania.—Generally cloudy and unsettled, with light northerly winds, fallen barometers, and moderate sea. Raining at Southport, and 0·10 inch fallen. 0·20 at Circular Heads, and 0·07 at Low Head. Extremes of barometers and temperature: Circular Heads, 30·14 and 59°; Hobart, 30·01; and Falmouth, 55°.

New South Wales.—Fine in north, cloudy and unsettled in S.E., and raining in S.W. parts; foggy on the range in south; light north to west winds; fallen barometers, and the sea moderate, but heavy at Port Macquarie. Light rain has fallen in central coast districts, heaviest (0.51 inch) at Port Stephens. Extremes of barometers and temperature: Wentworth, 30·27 and 72°; Port Macquarie, 30·02; and Cooma, 32°. For further particulars see map.

Queensland.—Generally fine and cool, with light to fresh S.E. and S. winds, fallen barometers, and the sea moderate, but rough at Cooktown. Rainfall: Cooktown, 0·12; and Brisbane, 0·05 inch. Extremes of barometers and temperature: Roma, 30·07 and 60°; Normanton, 29·97; and Cooktown, 83°.

3 P.M. OBSERVATIONS.

Victoria.—Portland, S., 18, fine but cloudy, smooth sea, temperature 61°; Cape Otway, S.W., 23, fine, smooth sea, temperature 59°; Melbourne, S., 13, overcast and threatening, temperature 60°; Cape Schanck, S.S.W., 13, fine but cloudy, smooth sea, temperature 63°; Wilson's Promontory, W.S.W., 23, showery and squally, rough sea, temperature 55°; Lakes Entrance, W., 18, overcast and threatening, temperature 66°.

New South Wales.—Menindie, S.E., 11, showery, temperature 66°; Wentworth, S., 14, fine and warm, temperature 62°; Deniliquin, N.W., 14, raining, temperature 66°; Eden, E.N.E., 14, fine, smooth sea, temperature 66°; Moruya, N.E., 11, fine, rising sea, temperature 67°; Cape St. George, S.E., 14, fine, moderate sea, temperature 69°; Sydney, S., 12, fine, moderate sea, temperature 67°; Newcastle, S.S.E., 42, raining, moderate sea, temperature 65°; Port Macquarie, S., 42, fine, rough sea, temperature 72°; Clarence River, S., 42, fine, moderate sea, temperature 77°; Walgett, S.S.E., 14, fine, temperature 75°; Dubbo, calm, fine, temperature 67°; Goulburn, W., 14, fine, temperature 62°.

Queensland.—Normanton, S.E., 8, fine and clear, temperature 85°; Hughenden, N.E., fine and warm; Roma, S., 14, fine, temperature 75°; Brisbane, S.E., 18, fine but cloudy, temperature 75°.

HEIGHT OF RIVERS ABOVE SUMMER LEVEL.

Macintyre: At Mungindie, 3 feet 1 inches. Barwon: At Mogil Mogil, 4 feet 6 inches; at Walgett, 8 feet 6 inches. Namoi: At Walgett, 3 feet 4 inches. Culgoa: at Goodooga, 3 feet 11 inches. Darling: At Brewarrina, 9 feet 9 inches; at Bourke, 23 feet 1 inch; at Louth, 21 feet 9 inches; at Tilpa, 30 feet 2 inches; at Wilcannia, 32 feet 1 inches; at Menindie, 26 feet 6 inches; at Pooncarie, 23 feet 4 inches; at Wentworth, 13 feet 3 inches. Murrumbidgee: At Gundagai, 3 feet 6 inches; at Wagga, 3 feet 9 inches; at Hay, 7 feet 6 inches; at Balranald, 12 feet 2 inches. Murray: At Albury, 2 feet; at Euston, 8 feet 11 inches.

ASTRONOMICAL MEMORANDA FOR APRIL 29.

Sun rises at 6.34, sets at 5.20; Moon, 11.42 a.m.; 9.52 p.m., Mercury, 4.33 a.m., 4.24 p.m.; Venus, 9.23 a.m., 7.11 p.m.; Mars, 6.30 a.m., 5.16 p.m.; Jupiter, 4.07 p.m., 5.55 p.m.; Saturn, 11.49 a.m., 9.45 p.m. Full moon, 8th; new moon, 23rd.
High water at Fort Denison: —— a.m., 12.1 p.m.

H. A. LENEHAN,
Acting Government Astronomer.

Stations.	W.T.	Mx.	Mn.	Rn.
Albury ..	f	61	47	0
Armidale	b	63	41	0
Balranald	b	84	49	0·50
Bathurst	f	69	37	0
Bendem'r	b	69	39	0
Bodalla ..	b	76	46	0
Bourke ..	b	80	55	0
Buncarra	b	75	44	0
C'md'n H.	b	72	63	0
C. St. Geo.	b	71	56	0
Carcoar ..	b	60	36	0
Casino ..	b	77	51	0
Cassilis ..	b	66	48	0
Clarence .	b	73	59	0
C'nd'b'lin	b	71	38	0
Cooma ..	c	69	44	0
Coonab'n.	b	74	36	0
Cowra ..	b	72	46	0
Cudg'llico	c	83	50	0
Deniliq'n.	b	69	42	0·14
Dubbo ..	b	73	41	0
Eden	b	61	59	0
Euston ..	b	79	43	0
Forbes ..	b	—	43	0
Glen Inn's	b	73	31	0
Goulburn	f	69	43	0
Grafton ..	b	71	51	0
Gulgong .	b	69	41	0
Gunned'h	b	70	47	0
Hay	b	71	48	0·42
Inverell ..	b	69	42	0
Kiandra. .	c	63	88	0
Lismore. .	c	75	58	0
Maitland .	g	70	56	0
Marsdens.	b	74	53	0
Menindie.	b	68	52	0
Molong ..	b	49	39	0
M'r'ng'r'll	b	72	45	0
Moree ..	b	89	48	0
Moruya ..	b	70	52	0
Moss Vale	b	62	50	0
Mt. Hope	f	73	56	0
M. Vict'ria	b	59	45	0
Mudgee ..	h	80	38	0
M'rr'mb'h	c	76	43	0
M'rr'r'ndi	b	65	51	0
Mus'lbr'k	b	75	43	0
Narrabri	b	75	52	0
Newcastle	b	71	59	0·05
Orange ..	b	61	41	0
Picton .	b	63	40	0
P. M'q'rie	b	72	55	0
P. St'ph'n	r	67	55	0·39
Q'nbeyan	b	59	46	0
Quirindi	b	74	48	0
Singleton	b	61	55	0
SYDNEY ..	b	68	57	0
Tamw'rth	b	73	39	0
Taralga ..	b	76	38	0
Taree ..	b	74	58	0
T'nt'rfield	b	71	37	0
Wagga ..	b	68	43	0
Walcha ..	b	63	34	0
Walgett ..	b	73	50	0
Warrah ..	-	—	—	-
W'ntw'rth	b	69	46	0
W'll'ng'ng	b	73	59	0
Young ..	g	90	42	0

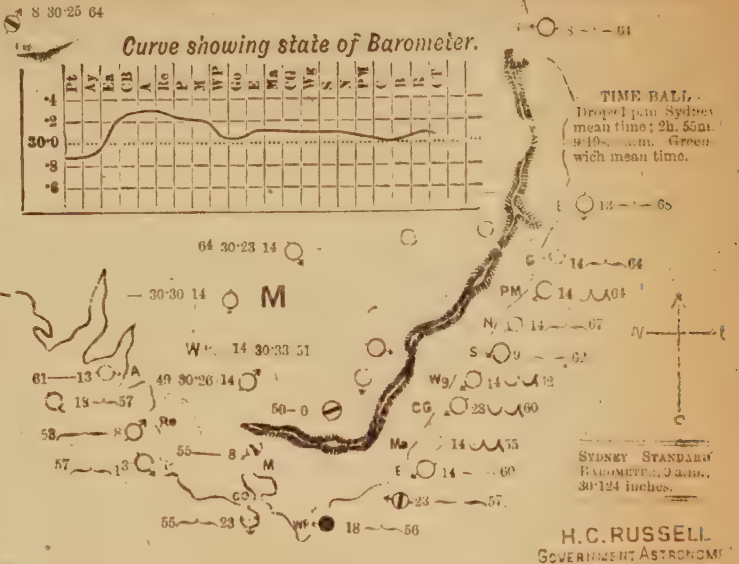
SYDNEY OBSERVATORY.

LATITUDE 33° 51′ 41″ S. LONGITUDE 10h. 4m. 50·31s. E.
MAGNETIC VARIATION, 9° 35′ 37″ E.

Average Annual Rainfall for 28 years .... 49·430
Average for 29 years from Jan. 1 to March 31 1887 .. 13·837
Total Rainfall from Jan. 1, to April, 29 1887 ... 20·707

Barometers corrected to 32° Fah. and Mean Sea Level

Fine. Cloudy. wind N. wind E. T. storm. Rain. wind S. wind W. If it is CALM, the symbol used without the arrow. Smooth sea. Heavy sea. Very heavy sea.



TIME BALL.
Dropped p.m. Sydney mean time; 2h. 55m. 9·19s. a.m. Green wich mean time.

SYDNEY STANDARD BAROMETER, 9 a.m., 30·124 inches.

H. C. RUSSELL
GOVERNMENT ASTRONOMER

NOTES EXPLANATORY OF MAP.

In the list of stations the column headed W.T. gives the state of the weather at 9 a.m., b standing for blue sky; c, detached clouds; d, drizzling rain; f, fog; g, gloomy; h, hazy; m, misty; n, frosty; o, overcast; p, passing showers; r, rain; s, snow; t, thunder; u, threatening. The next column, M'x gives the maximum temperature for previous 24 hours. M'n the corresponding minimum temperature, r'n, the rain for the previous 24 hours. The symbols used in the map are explained on the margin. At each coast station the wind symbol is placed like a vane pointing to the direction from which the wind is coming. A clear circle with it means fine weather; a circle with bar, cloudy weather; and a black spot, raining. Next to this symbol are placed figures denoting the number of miles the wind is moving per hour; next, a symbol showing the state of the sea; and, lastly, figures denoting the shade temperature at 9 a.m. The barometer curve shows the state of barometers round the coast from Perth to Cooktown.—Pt, Perth; Ay, Albany; Ea, Eucla; CB, Cape Borda; A, Adelaide; Re, Robe; P, Portland; M, Melbourne; WP, Wilson's Promontory; Go, Gabo; E, Eden; Ma, Moruya; CG, Jervis Bay; Wg, Wollongong; S, Sydney; N, Newcastle; PM, Port Macquarie; C, Clarence River; B, Brisbane; R, Rockhampton; Ct, Cooktown. Inland the state of barometer is given in figures at Albury, Deniliquin, Wentworth, Menindie, Bourke, and Alice Springs. The barometer curve enables one at a glance to trace the depressions, beginning with Western Australia, and passing along eastwards; northerly winds preceding them, and southerly following.

9 A.M. OBSERVATIONS.

Western Australia.—Generally fine, with clouds at places on the W. coast, light N. to E. winds, fallen barometers, and smooth sea. Extremes of barometers and temperature: Ashburton, 29·98; Perth, 29·88; Carnarvon, 77°; and Esperance Bay, 54°.

South Australia.—Generally fine and pleasant, with a few scattered clouds in places, light S.E. to E. tending to S.W. winds, slightly risen barometers, and smooth sea. Rainfall: Alice Springs, 0·17 inch. Extremes of barometers and temperature: Farina, 30·29; Port Darwin, 29·87 and 83°; M'Donnell Bay, 51°.

Victoria.—Fine in west, cloudy and showery in east parts, with light to fresh S.E. to S.W. winds and calms, risen barometers, and smooth to moderate sea. Rainfall: Lakes Entrance, 0·32; Omeo, 0·14; Melbourne, 0·12; and Portland, 0·02 inch. Extremes of barometers and temperature: Cape Otway and Ballarat, 30·29; Lakes Entrance, 30·17; Horsham, 61°; and Hamilton, 48°.

Tasmania.—Fine in north, with light southerly winds; gloomy and calm in south parts; risen barometers, and the sea moderate, but rough at Falmouth. Rainfall: Southport, 0·15 inch. Extremes of barometers and temperature: Southport, 30·28 and 52°; Falmouth, 30·12 and 60°.

New Zealand.—Heavy rain from N.E. in north; heavy rain and calm over centre, gloomy in south, with E. winds. Barometers: Generally 30·2.

New South Wales.—Generally fine, clear, and cool, with clouds and fogs in S.E. parts, and light showers falling at Port Stephens; light, variable winds and calms; almost steady barometers, and moderate to rough sea. Light rains have fallen at a few scattered places. Extremes of barometers and temperature: Wentworth, 30·33; Newcastle, 67°; Clarence, 30·04; and Kiandra, 45°. For further particulars see map.

Queensland.—Generally fine and cool, with light to fresh S.E. winds and calms, slightly risen barometers, and smooth to moderate sea. Rainfall: Brisbane, 0·01 inch. Extremes of barometers and temperature: Roma, 30·13 and 63°; Townsville, 30·00; and Cooktown, 82°.

3 P.M. OBSERVATIONS.

Victoria.—Portland, E.S.E., 23, cloudy, smooth sea, temperature 60°; Cape Otway, S., 28, fine but cloudy, slight sea, temperature 58°; Melbourne, S.S.W., 13, fine but cloudy, temperature 60°; Cape Schanck, S., 13, overcast and gloomy, slight sea, temperature 61°; Wilson's Promontory, W., 18, overcast and gloomy, moderate sea, temperature 60°; Lakes Entrance, W., 18, cloudy and gloomy, temperature 62°.

New South Wales.—Menindie, calm, cloudy and dull, temperature 66°; Wentworth, calm, fine, temperature 59°; Deniliquin, calm, fine, temperature 66°; Eden, S.W., 28, cloudy and threatening, heavy sea, temperature 65°; Moruya, S., 28, fine, moderate sea, temperature 64°; Cape St. George, S., 42, fine, heavy sea, temperature 67°; Sydney, S., 17, fine, moderate sea, temperature 66°; Newcastle, S.E., 14, cloudy, smooth sea, temperature, 66°; Port Macquarie, S., 42, cloudy, heavy sea, temperature 74°; Walgett, S., fine, temperature 74°; Dubbo, E., fine, temperature 66°; Goulburn, S.W., 14, dull, temperature 61°.

Queensland.—Townsville, S.E., 13, fine and clear, temperature 76°; Roma, S., 8, fine, temperature 76°; Brisbane, S.S.W., 8, fine, temperature 77°.

HEIGHT OF RIVERS ABOVE SUMMER LEVEL.

Macintyre: At Mungindi, 3 feet. Barwon: At Mogil Mogil, 7 feet; at Walgett, 8 feet. Namoi: At Walgett, 8 feet 4 inches. Culgoa: at Goodooga, 3 feet 10 inches. Darling: At Brewarrina, 7 feet 11 inches; at Bourke, 22 feet 7 inches; at Louth, 24 feet 6 inches; at Tilpa, 30 feet; at Wilcannia, 32 feet 4 inches; at Menindie, 26 feet 6 inches; at Pooncarie, 23 feet 4 inches; at Wentworth, 13 feet 3 inches. Murrumbidgee: At Gundagai, 3 feet 6 inches; at Wagga, 3 feet 7 inches; at Hay, 9 feet 5 inches; at Balranald, 12 feet. Murray: At Albury, 2 feet; at Euston, 8 feet 11 inches.

ASTRONOMICAL MEMORANDA FOR APRIL 30.

Sun rises at 6.35, sets at 5.19; Moon, 12.31 p.m.; 10.51 p.m.; Mercury, 4.36 a.m., 4.23 p.m.; Venus, 9.25 a.m., 7.11 p.m.; Mars, 6.29 a.m., 5.14 p.m.; Jupiter, 4.53 p.m., 5.51 p.m.; Saturn, 11.45 a.m., 9.41 p.m. Full moon, 8th; new moon, 23rd.
High water at Fort Denison, April 30: 12.23 a.m., 12.49 p.m.

H. A. LENEHAN,
Acting Government Astronomer.

Stations.	wt.	Mx.	Mn.	Rn.
Albury ..	b	65	42	0
Armidale	g	63	45	0
Balranald	b	82	53	0
Bathurst	f	80	41	0
Bendem'r	b	68	39	0
Bodalla ..	b	66	46	0·27
Bourke ..	b	80	51	0
Buncarra	b	66	46	0
C'md'n H.	b	74	62	0
C. St. Geo.	b	67	57	0
Carcoar ..	b	60	35	0
Casino ..	b	80	53	0
Cassilis ..	o	67	50	0
Clarence .	b	76	59	0
C'nd'b'lin	b	73	35	0
Cooma ..	b	78	33	0
Coonab'n.	b	74	35	0
Cowra ..	b	71	51	0
Cudg'llico	b	77	43	0
Deniliq'n.	b	75	37	0
Dubbo ..	b	74	43	0
Eden	b	64	52	0·01
Euston ..	b	79	41	0
Forbes ..	b	—	46	0
Glen Inn's	b	75	45	0
Goulburn	g	70	46	0·18
Grafton ..	b	76	54	0
Gulgong .	b	68	43	0
Gunned'h	b	69	50	0
Hay	b	69	39	0
Inverell ..	b	68	45	0
Kiandra. .	b	61	35	0·18
Lismore. .	b	77	59	0
Maitland .	b	71	56	0·03
Marsdens.	b	73	51	0
Menindie.	b	69	52	0
Molong ..	b	61	40	0
M'r'ng'r'll	b	70	45	0
Moree ..	b	88	49	0
Moruya ..	b	69	52	0·14
Moss Vale	u	60	50	0
Mt. Hope	b	72	46	0
M. Vict'ria	c	59	46	0

SYDNEY OBSERVATORY.

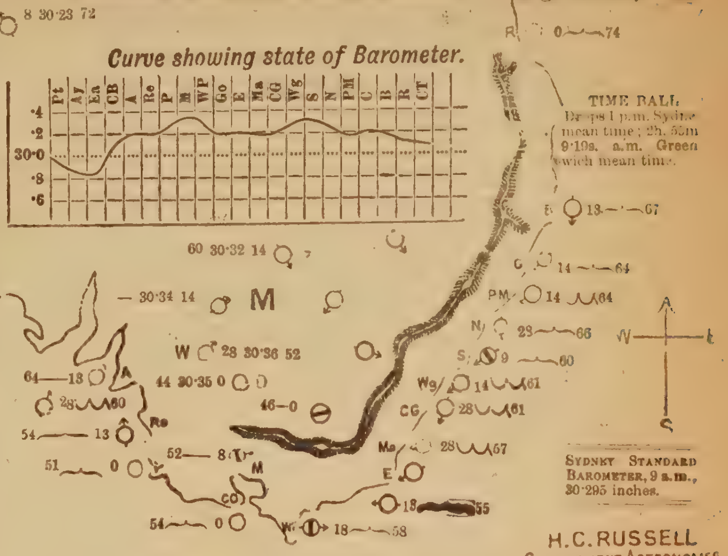
LATITUDE 33° 51′ 41″ S. LONGITUDE 10h. 4m. 50·31s. E.

MAGNETIC VARIATION, 9° 35′ 37″ E.

Average Annual Rainfall for 28 years .... 49·439
Average for 29 years from Jan. 1 to March 31 1887 .. 13·837
Total Rainfall from Jan. 1, to April, 30 1887 ...... 20·707

Barometers corrected to 32° Fah. and Mean Sea Level

Fine, wind N. — Cloudy wind E.
T. storm, wind S. — Rain, wind W.
If it is calm, the symbol used without the arrow
Smooth sea.
Heavy sea
Very heavy sea



SYDNEY STANDARD BAROMETER, 9 a.m., 30·295 inches.

H. C. RUSSELL
GOVERNMENT ASTRONOMER

Stations.	wt.	Mx.	Mn.	Rn.
Mudgee ..	b	83	38	0
M'rr'mb'h	f	73	42	0
M'rr'r'ndi	g	65	48	0
Mus'lbr'k	b	73	47	0
Narrabri	b	76	55	0
Newcastle	b	72	58	0·10
Orange ..	b	80	46	0
Ii ton .	b	69	41	0
P. M'q'rie	b	75	54	0
P. St'ph'n	c	67	53	0·21
Q'nbeyan	b	61	47	0
Quirindi	b	73	47	0
Singleton	b	69	57	0
SYDNEY ..	g	68	58	0
Tamw'rth	b	72	44	0
Taralga ..	u	73	44	0·04
Taree ..	b	73	58	0
T'nt'rfield	b	73	55	·0
Wagga ..	b	76	35	0
Walcha ..	b	64	35	0
Walgett ..	f	76	51	0
Warrah ..	b	71	—	0
W'ntw'rth	b	72	46	0
W'll'ng'ng	b	73	60	0
Young ..	b	79	44	0

NOTES EXPLANATORY OF MAP.

In the list of stations the column headed W.T. gives the state of **the weather at 9 a.m.**, b standing for blue sky; c, detached clouds; d, drizzling rain; f, fog; g, gloomy; h, hazy; m, misty; n, frosty; o, overcast; p, passing showers; r, rain; s, snow; t, thunder; u, threatening. The next column, M'x gives the maximum temperature for previous 24 hours. M'n the corresponding minimum temperature; r'n, the rain for the previous 24 hours. The symbols used in the map are explained on the margin. At each coast station the wind symbol is placed like a vane pointing to the direction from which the wind is coming. A clear circle with it means fine weather; a circle with bar, cloudy weather; and a black spot, raining. Next to this symbol are placed figures denoting the number of miles the wind is moving per hour; next, a symbol showing the state of the sea; and, lastly, figures denoting the shade temperature at 9 a.m. The barometer curve shows the state of barometers round the coast from Perth to Cooktown:—Pt, Perth; Ay, Albany; Ea, Eucla; CB, Cape Borda; A, Adelaide; Re, Robe; P, Portland; M, Melbourne; W P, Wilson's Promontory; Go, Gabo; E, Eden; Ma, Moruya; CG Jervis Bay; Wg, Wollongong; S, Sydney; N, Newcastle; P M, Port Macquarie; C, Clarence River; B, Brisbane; R, Rockhampton; Ct, Cooktown. Inland the state of barometer is given in figures at Albury, Deniliquin, Wentworth, Menindie, Bourke, and Alice Springs. The barometer curve enables one at a glance to trace the depressions, beginning with Western Australia, and passing along eastwards; northerly winds preceding them, and southerly following.

9 A.M. OBSERVATIONS.

Western Australia.—At Esperance Bay, fine, with light west wind, and rough sea, barometer, 29·81, and temperature 50°; at Perth, overcast, with light south wind and smooth sea, barometer 29·98, and temperature 55°. Rainfall: Esperance Bay, 0·11; and Perth, 0·89. No reports from N.W. ports.

South Australia.—Generally fine and pleasant, with light to fresh NE. to N. winds, fallen barometers, and moderate to rough sea; squally at Eucla. Extremes of barometers and temperature: M'Donnell Bay, 30·25 and 51°; Eucla, 29·84; and Port Darwin, 83°.

Victoria.—Generally fine, with clouds at places in SE. parts, and dense fog at Melbourne and Omeo; light easterly winds and calms, slightly risen barometers, and smooth sea; squally at Wilson's Promontory. Extremes of barometers and temperature: Omeo, 30·34 and 40; Portland and Lake's Entrance, 30·24; Horsham, 62°.

Tasmania.—Generally more or less cloudy and unsettled, with light, variable winds and calms, risen barometers and smooth to moderate sea. Rainfall: 0·02 inch at Hobart. Extremes of barometers and temperature: Hobart, 30·34 and 51; Circular Head, 30·30 and 58°.

New Zealand.—Generally overcast and dull, with light variable winds and calms. Barometers: In north, 30·0; over centre, 30·1; and in south, 30·2.

New South Wales.—Generally fine, clear, and cool, but cloudy in central coast districts; light S.W. to S.E. winds and calms, risen barometers and moderate to rough sea. Light rains have fallen on and near the coast south of Newcastle; heaviest (0·27 inch) at Bodalla. Extra station: Gabo Island, 0·11 inch rain. Extremes of barometers and temperature: Wentworth, 30·36; Port Macquarie, 30·18; Newcastle, 66°; and Cooma, 41°. For further particulars see map.

Queensland.—Generally fine and cool, with light E. to S. winds, risen barometers and moderate sea. Rainfall: 0·09 inch at Cooktown. Extremes of barometers and temperature: Roma, 30·22 and 60°; Cooktown, 30·10 and 83°.

3 P.M. OBSERVATIONS.

Victoria.—Portland, E., 13, fine and clear, smooth sea, temperature 62°; Cape Otway, E., 28, fine and cloudy, smooth sea, temperature 74°; Wilson's Promontory, N.E., 18, fine but cloudy, moderate sea, temperature 18°.

New South Wales.—Menindie, E., fine and clear, temperature 66°; Wentworth, calm, fine, temperature 62°; Deniliquin, calm, fine, temperature 67°; Eden, E., 28, fine, heavy sea, temperature 65°; Moruya, S.S.E, 28, fine, moderate sea, temperature 64°; Cape St. George, S.E., fine, heavy sea, temperature 67°; Sydney, S., cloudy, moderate sea; Newcastle, S., 14, fine, smooth sea, temperature, 66°; Port Macquarie, S., 28, fine, heavy sea, temperature 72°; Clarence River, S., 28, fine, moderate sea, temperature 72°; Walgett, E.S.E., fine and clear, temperature 76°; Dubbo, calm, cloudy and fine, temperature 66°; Goulburn, E.S.E., dull, temperature 61°.

Queensland.—Cooktown, overcast, moderate sea, temperature 80°; Normanton, S.E., 13, fine and clear, temperature 97°; Townsville, S.E., 13, fine and clear, temperature 78°; Roma, S.E., 8, fine and clear, temperature 76°; Cape Moreton, S.S.E., 28, hazy, temperature 67°; Brisbane, S.W., 8, fine and clear, temperature 77°.

HEIGHT OF RIVERS ABOVE SUMMER LEVEL.

Macintyre: At Mungindi, low. Barwon: At Mogil Mogil, 3 feet 9 inches; at Walgett, 7 feet 8 inches. Namoi: At Walgett, 3 feet 4 inches. Culgoa: at Goodooga, 3 feet 9 inches. Darling: At Brewarrina, 7 feet; at Bourke, 22 feet; at Louth, 24 feet; at Tilpa, 29 feet 10 inches; at Wilcannia, 32 feet 3 inches; at Menindie, 26 feet 7 inches; at Pooncarie, 23 feet 4 inches; at Wentworth, 13 feet 4 inches. Murrumbidgee: At Gundagai, 3 feet 6 inches; at Wagga, 4 feet 9 inches; at Hay, 6 feet; at Balranald, 12 feet. Murray: At Albury, 2 feet; at Euston, 9 feet.

ASTRONOMICAL MEMORANDA FOR MAY 2.

Sun rises at 6.36, sets at 5.17; Moon, 2.3 p.m.; Mercury, 4.43 a.m., 4.23 p.m.; Venus, 9.29 a.m., 7.12 p.m.; Mars, 6.28 a.m., 5.11 p.m.; Jupiter, 4.44 p.m., 5.42 a.m.; Saturn, 11.39 a.m., 9.35 p.m. Full moon, 8th; new moon, 23rd.

High water at Fort Denison, May 2: 2.20 a.m., 2.59 p.m.

H. A. LENEHAN,
Acting Government Astronomer.

Stations.	W.T.	Mx	Mn	Rn
Albury	f	70	43	0·03
Armidale	b	63	46	0
Balranald	g	83	53	0·03
Bathurst	f	71	37	0
Bendem'r	f	71	38	0
Bodalla	b	64	46	0·04
Bourke	b	84	50	0
Buncarra	b	75	44	0
C'md'n H.	b	73	56	0
C. St. Geo.	b	71	55	0
Carcoar	b	60	36	0
Casino	b	77	53	0
Cassilis	b	65	51	0
Clarence	b	76	59	0
C'nd'b'lin	u	71	38	0
Cooma	c	70	39	0
Coonab'n.	b	76	36	0
Cowra	c	77	43	0
Cudg'llico	b	79	63	0
Deniliq'n.	g	75	46	0·05
Dubbo	b	77	41	0
Eden	b	66	55	0
Euston	r	78	57	0
Forbes	b	—	42	0
Glen Inn's	f	75	43	0
Goulburn	g	65	42	0
Grafton	f	74	53	0
Gulgong	b	65	36	0
Gunned'h	b	69	47	0
Hay	u	75	51	0
Inverell	b	68	40	0
Kiandra	c	61	27	0
Lismore	f	76	57	0·03
Maitland	b	72	56	0
Marsdens.	c	73	45	0
Menindie.	r	79	62	0
Molong	b	51	38	0
M'r'ng'r'll	c	72	45	0
Moree	b	90	59	0
Moruya	b	69	50	0
Moss Vale	b	63	48	0
Mt. Hope	u	82	46	0
M. Vict'ria	c	61	47	0
Mudgee	f	81	36	0
M'rr'mb'h	c	75	42	0
M'rr'r'ndi	b	73	47	0
Mus'lbr'k	b	72	44	0
Narrabri	b	72	46	0
Newcastle	f	70	52	0·01
Orange	b	60	41	0
Picton	c	61	40	0
P. M'q'rie	b	71	54	0
P. St'ph'n	b	68	48	0·25
Q'nbeyan	g	61	47	0
Quirindi	b	75	45	0
Singleton	b	69	59	0
SYDNEY	f	69	56	0·02
Tamw'rth	b	72	40	0
Taralga	b	71	42	0
Taree	b	76	50	0
T'nt'rfield	b	71	54	0
Wagga	u	74	33	0
Walcha		64	33	0
Walgett	b	66	49	0
Warrah	b	72	—	0
W'ntw'rth	c	76	55	0·03
W'll'ng'ng	b	74	58	0
Young		86	44	0

SYDNEY OBSERVATORY.

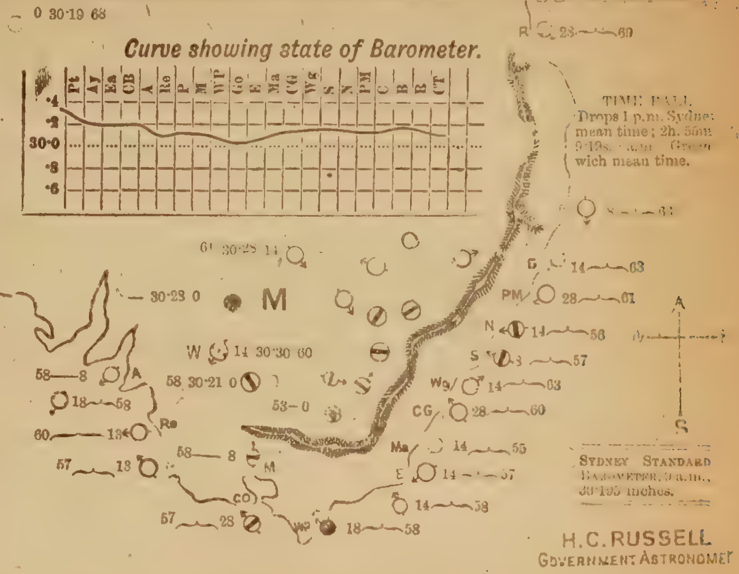
LATITUDE 33° 51′ 41″ S. LONGITUDE 10h. 4m. 50·81s. E.

MAGNETIC VARIATION, 9° 35′ 37″ E.

Average Annual Rainfall for 28 years .... 49·489
Average for 29 years from Jan. 1 to April 30 1887 .. 20·374
Total Rainfall from Jan. 1, to May 3 1887 ......

Barometers corrected to 32° Fah. and Mean Sea Level

Fine, wind N. ... Cloudy, wind ...
T. storm, wind S. ... Rain, wind W.
If it is CALM, the symbol used without the arrow
Smooth sea.
Heavy sea.
Very heavy sea.



TIME BALL.
Drops 1 p.m. Sydney mean time; 2h. 56m. 9·19s. a.m. Greenwich mean time.

SYDNEY STANDARD BAROMETER, 9 a.m., 30·195 inches.

H. C. RUSSELL
GOVERNMENT ASTRONOMER

NOTES EXPLANATORY OF MAP.

In the list of stations the column headed W.T. gives the state of the weather at 9 a.m., b standing for blue sky; c, detached clouds; d, drizzling rain; f, fog; g, gloomy; h, hazy; m, misty; n, frosty; o, overcast; p, passing showers; r, rain; s, snow; t, thunder; u, threatening. The next column, M'x gives the maximum temperature for previous 24 hours. M'n the corresponding minimum temperature; r'n, the rain for the previous 24 hours. The symbols used in the map are explained on the margin. At each coast station the wind symbol is placed like a vane pointing to the direction from which the wind is coming. A clear circle with it means fine weather; a circle with bar, cloudy weather; and a black spot, raining. Next to this symbol are placed figures denoting the number of miles the wind is moving per hour; next, a symbol showing the state of the sea; and, lastly, figures denoting the shade temperature at 9 a.m. The barometer curve shows the state of barometers round the coast from Perth to Cooktown:—Pt, Perth; Ay, Albany; Ea, Eucla; CB, Cape Borda; A, Adelaide; Re, Robe; P, Portland; M, Melbourne; WP, Wilson's Promontory; Go, Gabo; E, Eden; Ma, Moruya; CG, Jervis Bay; Wg, Wollongong; S, Sydney; N, Newcastle; PM, Port Macquarie; C, Clarence River; B, Brisbane; R, Rockhampton; Ct, Cooktown. Inland the state of barometer is given in figures at Albury, Deniliquin, Wentworth, Menindie, Bourke, and Alice Springs. The barometer curve enables one at a glance to trace the depressions, beginning with Western Australia, and passing along eastwards; northerly winds preceding them, and southerly following.

9 A.M. OBSERVATIONS.

Western Australia.—Generally fine, with light S.E. winds and calm, risen barometers, and moderate sea; no rain fallen. Extremes of barometers and temperature: Perth, 30·28 and 44°; Cossack, 29·98 and 77°.

South Australia.—Generally fine, with scattered clouds, and in parts overcast; light variable winds and calm inland; W. to S.W. winds on and near the coast, risen barometers, and moderate sea; rain has fallen south of Beltana; heaviest over Mount Lofty ranges, Morphettvale, 1·31; Port Victoria and Adelaide, 1·03 inches. Extremes of barometers and temperature: Adelaide, 30·22; Port Darwin, 29·86 and 82°; M'Donnell Bay, 53°.

Victoria.—Generally cloudy and unsettled, with showery weather in E. parts, light to fresh N. to W. winds, fallen barometers, and moderate sea; light rains have fallen generally; heaviest at Horsham, 0·51 inch; Ballarat, 0·49; Portland, 0·48; Hamilton, 0·25; and Cape Otway, 0·23. Extremes of barometers and temperature: Melbourne, 30·16; Hamilton, 30·03; Echuca, 66°; and Omeo, 52°.

Tasmania.—Generally fine, with light N. to W. winds, fallen barometers, and smooth sea. Rainfall: Low Heads, 0·28; and Circular Head, 0·37 inches. Extremes of barometers and temperature: Low Heads, 30·04; Hobart, 29·95 and 59°; Circular Head, 61°.

New Zealand.—Heavy showers throughout; calm in north, S.E. winds over centre, and N.E. winds in south. Barometers: In south, 30·1; to northward, 29·9 inches.

New South Wales.—Cloudy and threatening, with light rain falling at places in south parts, except near the coast, where it is fine; fine and clear in north, with fog at places on the ranges and coast; light variable winds and calms, slightly fallen barometers, and smooth to moderate sea. Light rains have fallen along the Victorian border, and at places on the coast, heaviest (0·25 inch) at Port Stephens. Extremes of barometers and temperature: Wentworth, 30·30; Gabo Island, 30·05; Clarence and Wollongong, 63°; Cooma, 40°.

Queensland.—Fine and cool in south parts, with light S. to E. winds and calms, steady barometers, and moderate sea. Rainfall: 0·12 inch at Cape Moreton. No reports from north parts. Extremes of barometers and temperature: Brisbane, 30·21 and 66°; Rockhampton, 30·14; and Townsville, 71°.

3 P.M. OBSERVATIONS.

New South Wales.—Menindie, calm, dull, temperature 79°; Wentworth, S., fine, temperature 80°; Deniliquin, calm, cloudy, temperature 65°; Eden, S.W., 14, overcast and like rain, moderate sea, temperature 68°; Moruya, N.E, 14, dull, smooth sea, temperature 68°; Cape St. George, W., 14, fine but cloudy, moderate sea, temperature 67°; Sydney, S.W., 6, fine but cloudy, smooth sea, temperature 70°; Newcastle, N.W., 14, fine, smooth sea, temperature, 72°; Port Macquarie, N.E., 14, cloudy and sultry, smooth sea, temperature 75°; Clarence River, S.E., 14, fine, smooth sea, temperature 74°; Walgett, calm, cloudy, temperature 75°; Dubbo, calm, fine but cloudy, temperature 65°; Forbes, W., fine but cloudy; Goulburn, W., 14, fine, temperature 61°.

Queensland.—Cooktown, E.S.E., threatening, rough sea, temperature 81°; Hughenden, N.E., fine; Roma, calm, fine, temperature 78°; Cape Moreton, S.E., 23, fine, temperature 72°; Brisbane, S.E., 13, fine, temperature 78.

HEIGHT OF RIVERS ABOVE SUMMER LEVEL.

Macintyre: At Mungindi, low. Barwon: At Mogil Mogil, 3 feet 7 inches; at Walgett, 7 feet. Namoi: At Walgett, 3 feet 4 inches. Culgoa: at Goodooga, 3 feet 8 inches. Darling: At Brewarrina, 6 feet 6 inches; at Bourke, 20 feet 8 inches; at Louth, 23 feet 3 inches; at Tilpa, 29 feet 6 inches; at Wilcannia, 32 feet; at Menindie, 26 feet 8 inches; at Pooncarie, 15 feet 4 inches; at Wentworth, 13 feet 5 inches. Murrumbidgee: At Gundagai, 3 feet 6 inches; at Wagga, 3 feet 5 inches; at Hay, 5 feet 2 inches; at Balranald, 12 feet 2 inches. Murray: At Albury, 1 foot; at Euston, 9 feet 3 inches.

ASTRONOMICAL MEMORANDA FOR MAY 3.

Sun rises at 6.37, sets at 5.16; Moon, 2.45 p.m., 12.57 a.m.; Mercury, 4.47 a.m., 4.23 p.m.; Venus, 9.31 a.m., 7.13 p.m.; Mars, 6.27 a.m., 5.9 p.m.; Jupiter, 4.39 p.m., 5.37 a.m.; Saturn, 11.36 a.m., 9.32 p.m. Full moon, 8th; new moon, 23rd. High water at Fort Denison, May 3: 3.38 a.m., 4.18 p.m.

H. A. LENEHAN,
Acting Government Astronomer.

Stations.	W.T.	Mx	Mn	Rn.
Albury	r	62	52	0·60
Armidale	c	62	45	0
Balranald	g	82	43	0·05
Bathurst	c	67	45	0
Bendem'r'	c	61	41	0
Bodalla	g	68	57	0
Bourke	c	87	55	0
Buncarra	c	69	51	0
C'md'n H.	b	74	54	0
C. St. Geo.	c	71	58	0
Carcoar	g	60	41	0
Casino	c	82	50	0
Cassilis	b	64	49	0
Clarence	c	79	69	0
C'nd'b'lin	c	72	41	0
Cooma	c	62	37	0·12
Coonab'n.	b	77	39	0
Cowra	g	70	51	0
Cudg'llico	g	69	57	0
Deniliq'n.	g	85	51	0·32
Dubbo	b	76	45	0
Eden	b	66	54	0·10
Euston	c	86	51	0
Forbes	b	—	41	0
Glen Inn's	c	68	50	0
Goulburn	b	67	43	0
Grafton	b	81	54	0
Gulgong	b	64	42	0
Gunned'h	b	68	52	0
Hay	u	70	56	0·05
Inverell	c	66	51	0
Kiandra	g	55	35	0·31
Lismore	o	81	59	0
Maitland	b	71	55	0
Marsdens.	c	66	50	0
Menindie.	r	73	61	0
Molong	b	55	47	0
M'r'ng'r'll	o	70	53	0
Moree	b	80	60	0
Moruya	b	70	53	0
Moss Vale	b	63	48	0
Mt. Hope	u	73	59	0
M. Vict'ria	b	63	49	0
Mudgee	b	78	40	0
M'rr'mb'h	a	67	50	0
M'rr'r'ndi	b	65	47	0
Mus'lbr'k	b	74	45	0
Narrabri	b	78	55	0
Newcastle	b	74	54	0
Orange	b	62	47	0
Picton	g	79	51	0
P. M'q'rie	b	73	52	0
P. St'ph'n	b	71	50	0
Q'nbeyan	f	59	47	0
Quirindi	b	73	49	0
Singleton	b	70	55	0
SYDNEY	b	70	57	0
Tamw'rth	b	71	40	0
Taralga	b	72	46	0
Taree	b	73	54	0
T'nt'rfield	o	74	60	0
Wagga	r	63	45	0·14
Walcha	n	64	31	0
Walgett	b	—	56	0
Warrah	b	74	—	0
W'ntw'rth	g	76	51	0·01
W'll'ng'ng	g	74	60	0
Young	g	76	65	0

SYDNEY OBSERVATORY.

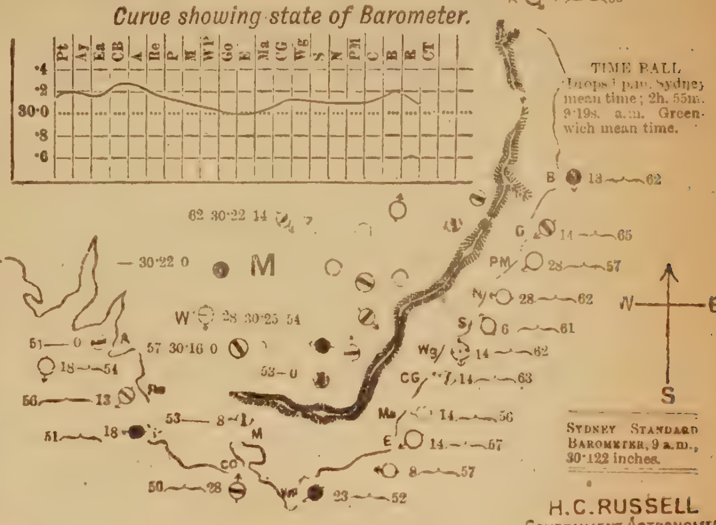
LATITUDE 33° 51′ 41″ S. LONGITUDE 10h. 4m. 50·31s. E.

MAGNETIC VARIATION, 9° 35′ 37″ E.

Average Annual Rainfall for 28 years .... 49·489
Average for 29 years from Jan. 1 to April 30 1887 .. 20·374
Total Rainfall from Jan. 1, to May 4 1887 .... 20·740

Barometers corrected to 32° Fah. and Mean Sea Level

Fine, wind N. Cloudy, wind E. T. storm, wind S. Rain, wind W.
If it is CALM, the symbol used without the arrow
Smooth sea.
Heavy sea
Very heavy sea.



TIME BALL
Drops 1 p.m. Sydney mean time; 2h. 55m. 9·19s. a.m. Greenwich mean time.

SYDNEY STANDARD BAROMETER, 9 a.m., 30·122 inches.

H. C. RUSSELL
GOVERNMENT ASTRONOMER

NOTES EXPLANATORY OF MAP.

In the list of stations the column headed W.T. gives the state of the weather at 9 a.m., b standing for blue sky; c, detached clouds; d, drizzling rain; f, fog; g, gloomy; h, hazy; m, misty; n, frosty; o, overcast; p, passing showers; r, rain; s, snow; t, thunder; u, threatening. The next column, M'x gives the maximum temperature for previous 24 hours. M'n the corresponding minimum temperature; R'n, the rain for the previous 24 hours. The symbols used in the map are explained on the margin. At each coast station the wind symbol is placed like a vane pointing to the direction from which the wind is coming. A clear circle with it means fine weather; a circle with bar, cloudy weather; and a black spot, raining. Next to this symbol are placed figures denoting the number of miles the wind is moving per hour; next, a symbol showing the state of the sea; and, lastly, figures denoting the shade temperature at 9 a.m. The barometer curve shows the state of barometers round the coast from Perth to Cooktown: Pt, Perth; Ay, Albany; Ea, Eucla; CB, Cape Borda; A, Adelaide; Re, Robe; P, Portland; M, Melbourne; W P, Wilson's Promontory; Go, Gabo; E, Eden; Ma, Moruya; C G Jervis Bay; Wg, Wollongong; S, Sydney; N, Newcastle; P M, Port Macquarie; C, Clarence River; B, Brisbane; R, Rockhampton; Ct, Cooktown. Inland the state of barometer is given in figures at Albury, Deniliquin, Wentworth, Menindie, Bourke, and Alice Springs. The barometer curve enables one at a glance to trace the depressions, beginning with Western Australia, and passing along eastwards; northerly winds preceding them, and southerly following.

9 A.M. OBSERVATIONS.

Western Australia.—Fine along the west coast with light variable winds and calms, cloudy and unsettled in south parts, with light S. to E. winds, fallen barometers, and smooth to moderate sea. Extremes of barometers and temperature: Esperance Bay, 30·21; Carnarvon, 29·88 and 76°; Perth, 53°.

South Australia.—Generally cloudy and unsettled, with scattered clouds on and near the coast, light southerly winds and calms, risen barometers, and moderate sea. Light rains have fallen north of Port Augusta, and on the coast and ranges; heaviest at Teetulpa, 0·35 inch; Hergott, 0·15; Fowler's Bay, 0·23; Yorketown, 0·25; and Victor Harbour, 0·28 inches. Extremes of barometers and temperature: Cape Borda, 30·25; Eucla, 30·18 and 63°; M'Donnell Bay, 53°. No reports from Northern Territory.

Victoria.—Generally overcast and gloomy, with passing showers of misty rain, light to fresh westerly winds, steady barometers, and moderate sea. Rainfall: Portland, 0·23; Wilson's Promontory and Cape Otway, 0·15; Cape Schanck, 0·09; Hamilton, 0·07; Omeo, Ballarat, and Melbourne, 0·02 inches. Extremes of barometers and temperature: Melbourne, 30·14; Lakes Entrance, 30·02; Horsham, 60°; and Omeo, 46°.

Tasmania.—Fine in north, light scattered clouds along the east coast, light westerly winds, steady barometers, and moderate sea. Rainfall: Low Head, 0·35; and Circular Head, 0·07 inches. Extremes of barometers and temperature: Circular Head, 30·03; Falmouth, 29·95; Southport, 56°; and Hobart, 50°.

New Zealand.—Fine in north, with S.W. winds; overcast, with N.W. winds, over centre; and 1·65 inch rain fallen at Wellington. and in south parts misty rain from N.E. Barometers—In north, 29·9; over centre, 29·6; and in south, 30·0 inches.

New South Wales.—In south and west parts cloudy and unsettled, with light rain falling in places; in north and east fine, with clouds at places; light variable, chiefly westerly, winds and calms, slightly fallen barometers, and smooth sea. Light rains have fallen along the Victorian border, heaviest (0·60 inch) at Albury. Extra station: Bega, 0·36 inch rain fallen, and still raining. Extremes of barometers and temperature: Wentworth, 30·25; Gabo Island, 30·01; Clarence Heads, 65°; and Cooma, 40°. For further particulars see map.

Queensland.—Generally fine and cool, with clouds at places in S. E. parts, and misty rain falling at Brisbane; light S. to E. winds, risen barometers, and moderate to rough sea. Rainfall: Brisbane, 0·51; Cooktown, 0·43; and Cape Moreton, 0·12 inches. Extremes of barometers and temperature: Brisbane, 30·21 and 62°; Normanton, 30·04; and Cooktown, 83°.

3 P.M. OBSERVATIONS.

Victoria.—Portland, S., 28, fine, partly cloudy, smooth sea, temperature 55°; Cape Otway, W., 34, fine, but cloudy, rough sea, temperature 54°; Melbourne, W.N.W., 13, fine, but cloudy, temperature 60°; Cape Schanck, W.S.W., 23, overcast, slight sea, temperature 60°; Wilson's Promontory, W., 18, overcast and squally, rough sea, temperature 56°; Lakes Entrance, W., 13, heavy and gloomy, temperature 57°.

New South Wales.—Menindie, E., 14, overcast and showery, temperature 66°; Wentworth, S.W., 14, fine, temperature 56°; Deniliquin, W., 14, overcast and dull, temperature 67°; Moruya, calm, cloudy and dull, temperature 65°; Cape St. George, N., 14, fine, smooth sea, temperature 71°; Sydney, N.E., 11, fine, hazy, and warm, smooth sea, temperature 69°; Newcastle, N.W., 14, fine, smooth sea, temperature 74°; Port Macquarie, N.E., 28, fine, smooth sea, temperature 74°; Clarence River, N.E., 14, fine, smooth sea, temperature 73°; Walgett, calm, fine, temperature 76°; Goulburn, N.W., 14, fine, temperature 64°.

Queensland.—Normanton, S.E., 13, sultry and cloudy, temperature 97°; Townsville, S.E., 13, fine and clear, temperature 78°; Rockhampton, S.E., 18, fine, but cloudy, temperature 75°; Roma, S.E., 8, overcast, temperature 75°; Cape Moreton, S.S.E., 23, overcast, temperature 69°; Brisbane, S., 8, overcast and gloomy, temperature 70°.

HEIGHT OF RIVERS ABOVE SUMMER LEVEL.

Macintyre: At Mungindi, low. Barwon: At Mogil Mogil, 2 feet 10 inches; at Walgett, 6 feet 4 inches. Namoi: At Walgett, 3 feet 4 inches. Culgoa: At Goodooga, 3 feet 6 inches. Darling: At Brewarrina, 6 feet 2 inches; at Bourke, 19 feet; at Louth, 22 feet 3 inches; at Tilpa, 29 feet 2 inches; at Wilcannia, 31 feet 10 inches; at Menindie, 26 feet 9 inches; at Pooncarie, 23 feet 5 inches; at Wentworth, 13 feet 8 inches. Murrumbidgee: At Gundagai, 3 feet 6 inches; at Wagga, 3 feet 5 inches; at Hay, 4 feet 3 inches; at Balranald, 12 feet. Murray: At Albury, 1 foot 11 inches; at Euston, 9 feet 4 inches.

ASTRONOMICAL MEMORANDA FOR MAY 5.

Sun rises at 6.39, sets at 5.14; Moon, 4.6 p.m., 3.10 a.m; Mercury, 4.54 a.m., 4.23 p.m.; Venus, 9.35 a.m., 7.15 p.m.; Mars, 6.26 a.m., 5.6 p.m.; Jupiter, 4.30 p.m., 5.28 a.m.; Saturn, 11.30 a.m., 9.26 p.m. Full moon, 8th; new moon, 23rd.

High water at Fort Denison, May 5: 6.9 a.m., 6.38 p.m.

H. A. LENEHAN,
Acting Government Astronomer.

Stations.	W.T.	Mx	M'n	Rn.
Albury ..	n	59	39	0·27
Armidale	b	63	41	0
Balranald	b	83	58	0
Bathurst	g	70	49	0·17
Bendem'r	b	68	40	0
Bodalla ..	b	68	50	0·10
Bourke ..	b	90	60	0
Buncarra	b	70	46	0
C'md'n H.	b	77	58	0
C. St. Geo.	c	77	55	0
Carcoar ..	g	60	41	0·15
Casino ..	b	78	52	0
Cassilis ..	r	66	50	0
Clarence .	g	75	60	0
C'nd'b'lin	u	77	39	0·30
Cooma ..	c	57	38	0·18
Coonab'n.	r	77	47	0·04
Cowra ...	g	68	45	0·08
Cudg'llico	u	57	51	0
Deniliq'n.	b	70	36	0
Dubbo ..	r	79	52	0·28
Eden	b	64	51	0
Euston ..	b	69	36	0
Forbes ..	b	–	59	0·14
Glen Inn's	c	62	44	0
Goulburn	g	71	45	0
[illegible]	b	[illegible]	[illegible]	0
Gulgong .	u	70	46	0·90
Gunned'h	c	71	52	0
Hay	b	68	40	0
Inverell ..	c	68	45	0
Kiandra ..	n	48	31	0·88
Lismore ..	b	76	58	0
Maitland .	g	73	54	0
Marsdens.	b	66	55	0·05
Menindie.	b	64	50	0
Molong ..	r	71	48	0·06
M'r'ng'r'll	b	69	50	0·13
Moree ..	b	88	54	0
Moruya ..	b	68	54	0·03
Moss Vale	g	64	49	0
Mt. Hope	g	73	50	0·15
M. Vict'ria	u	64	41	0·04
Mudgee ..	r	78	46	0·25
M'rr'mb'h	b	67	48	0
M'rr'r'ndi	u	66	53	0
Mus'lbr'k	o	74	50	0
Narrabri	o	85	53	0
Newcastle	r	78	58	0·01
Orange ..	c	62	47	0·14
P'ton ..	g	70	54	0·02
P M'q'rie	c	74	54	0
P St'ph'n	b	71	54	0
Q'nbeyan	b	61	48	0
Quirindi	u	76	53	0
Singleton	r	61	59	0·26
SYDNEY ..	r	65	56	0·09
Tamw'rth	b	74	43	0
Taralga ..	g	68	45	0
Taree ..	b	78	57	0
T'nt'rfield	b	70	52	0
Wagga ..	b	67	35	0·46
Walcha ..	b	63	31	0
Walgett ..	g	—	58	0
Warrah ..	r	73	—	0
W'ntw'rth	b	63	40	0
W'll'ng'ng	o	78	63	0
Young ..	b	76	47	0·04

SYDNEY OBSERVATORY.

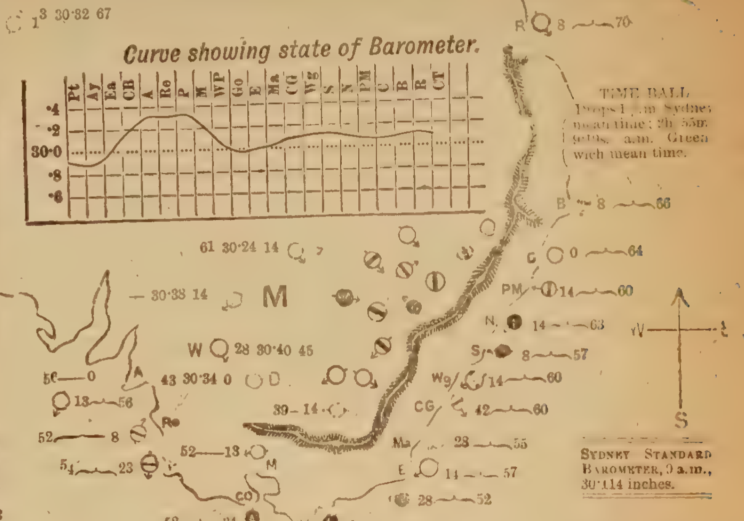
LATITUDE 33° 51' 41" S. LONGITUDE 10h. 4m. 50·31s. E.

MAGNETIC VARIATION, 9° 35' 37" E.

Average Annual Rainfall for 29 years .... 49·430
Average for 29 years from Jan. 1 to April 30 1887 .. 20·374
Total Rainfall from Jan. 1, to May 5 1887 ...... 20·825

Barometers corrected to 32° Fah. and Mean Sea Level

Fine, wind N. — Cloudy, wind E. — T. storm, wind S. — Rain, wind W.
If it is CALM, the symbol used without the arrow
Smooth sea.
Heavy sea.
Very heavy sea.



H. C. RUSSELL
GOVERNMENT ASTRONOMER

NOTES EXPLANATORY OF MAP.

In the list of stations the column headed W.T. gives the state of the weather at 9 a.m., b standing for blue sky; c, detached clouds; d, drizzling rain; f, fog; g, gloomy; h, hazy; m, misty; n, frosty; o, overcast; p, passing showers; r, rain; s, snow; t, thunder; u, threatening. The next column. M'x gives the maximum temperature for previous 24 hours. M'n the corresponding minimum temperature, r'n. the rain for the previous 24 hours. The symbols used in the map are explained on the margin. At each coast station the wind symbol is placed like a vane pointing to the direction from which the wind is coming. A clear circle with it means fine weather; a circle with bar, cloudy weather; and a black spot, raining. Next to this symbol are placed figures denoting the number of miles the wind is moving per hour; next, a symbol showing the state of the sea; and, lastly, figures denoting the shade temperature at 9 a.m. The barometer curve shows the state of barometers round the coast from Perth to Cooktown:—Pt, Perth; Ay, Albany; Ea, Eucla; CB, Cape Borda; A, Adelaide; Re, Robe; P, Portland; M, Melbourne; W P, Wilson's Promontory; Go, Gabo; E, Eden; Ma, Moruya; CG Jervis Bay; Wg, Wollongong; S, Sydney; N, Newcastle; P M, Port Macquarie; C, Clarence River; B, Brisbane; R, Rockhampton; Ct, Cooktown. Inland the state of barometer is given in figures at Albury, Deniliquin, Wentworth, Menindie, Bourke, and Alice Springs. The barometer curve enables one at a glance to trace the depressions, beginning with Western Australia, and passing along eastwards; northerly winds preceding them, and southerly following.

9 A.M. OBSERVATIONS.

Western Australia.—Generally fine, with clouds at places, light variable winds and calms, fallen barometers, and smooth sea. Rainfall: 0·27 inch at Geraldton, and Esperance Bay 0·02 inch. Extremes of barometers and temperature: Ashburton, 30·03; Albany, 29·89; Carnarvon, 29·96; and Perth 49°.

South Australia.—Generally fine, pleasant, and cool, with hoar frost and light scattered clouds in parts, light N.E. to S.E. winds, risen barometers, and moderate sea. Rainfall: Strangways Springs, 0·34 inch; Beltana and Port Lincoln, 0·05 inch. Thunderstorm this morning at Eucla. Extremes of barometers and temperature: Adelaide, 30·36; Port Darwin, 29·90 and 84°; M'Donnell Bay, 53°.

Victoria—Generally cloudy and unsettled, with passing showers in S.E. parts, fresh to strong W. to S. winds, risen barometers, and moderate to rather rough sea. Rainfall: In S.E. parts generally, the heaviest, 0·13 inch, being at Omeo. Extremes of barometers and temperature: Ballarat, 30·36 and 44°; Lakes Entrance, 30·12; and Horsham, 60°.

Tasmania.—Fine in north, cloudy and unsettled in south, with fresh S. to S.W. winds, risen barometers, and smooth, to moderate sea. Rainfall: 0·07 inch at Hobart. Extremes of barometers and temperature: Circular Head, 30·16 and 52°; Falmouth, 30·05 and 51°.

New Zealand.—Generally fine, with S.E. to S.W. winds, in north squally from S.W. Barometers—In extreme north and south, 30·0; over centre, 29·9.

New South Wales.—Fine in extreme N.E. and S.W. parts, over the remainder of the colony, cloudy, threatening, and cool, with light rain, falling in the districts between the Macquarie and Namoi rivers, west of the range, and on the coast, between Sydney and Newcastle. Light rains have fallen in S.E. parts generally; heaviest on the ranges. Winds generally are light westerly, with calms at places; barometers have fallen slightly on the coast, but risen in west parts; sea is smooth. Extra stations: Hill End, rainfall, 0 ..; Camden, 0·25; Wilcannia, 0·08, and Gabo Island, 0·13 inch. Extremes of barometers and temperature: Wentworth, 30·30, Gabo Island, 30·01; Clarence Heads, 64°; Albury and Cooma, 39°. For further particulars see map.

Queensland.—Generally fine and cool, with light to fresh S. to E. winds, risen barometers, and moderate sea. In S.E. parts, cloudy and unsettled; 0·01 inch rain fallen at Brisbane. Extremes of barometers and temperature: Normanton, 30·09; Cooktown, 30·16, and 84°; Roma, 68°.

3 P.M. OBSERVATIONS.

Victoria.—Portland, S.E., 23, fine, but cloudy, smooth sea, temperature 55°; Cape Otway, S.S.W., 28, fine, but cloudy, slight sea, temperature 53°; Cape Schanck, S.S.W., 23, overcast and gloomy, moderate sea, temperature 57°; Wilson's Promontory, S.W., 34, overcast and squally, rough sea, temperature 54°; Lakes Entrance, W., 28, overcast and threatening, temperature 59°.

New South Wales.—Menindie, S., 28, fine, temperature 65°; Wentworth, S., 14, fine and clear, temperature 55°; Deniliquin, S., 14, fine, temperature 61°; Eden, W.S.W., 42, fine, but cloudy, smooth sea, temperature 59°; Moruya, S., 28, fine, smooth sea, temperature 55°; Cape St. George, S.E., 42, cloudy, like rain, smooth sea, temperature 63°; Sydney, S., 11, fine, but cloudy, smooth sea, temperature 63°; Newcastle, W.N.W., 14, showery, smooth sea, temperature 64°; Port Macquarie, S., 42, unsettled, smooth sea, temperature 71°; Clarence River, N.N.E., 14, fine, smooth sea, temperature 75°; Walgett, S.S.W., 14, cloudy, temperature 66°; Dubbo, S.W., 14, fine, temperature 65°; Hay, S., 28, fine and clear; Goulburn, W.S.W., 14, fine, temperature 60°.

HEIGHT OF RIVERS ABOVE SUMMER LEVEL.

Macintyre: At Mungindi, low. Barwon: At Mogil Mogil, 2 feet 10 inches; at Walgett, 6 feet; Namoi: At Walgett, 3 feet. Culgoa: At Goodooga, 3 feet 5 inches. Darling: At Brewarrina, 6 feet; at Bourke, 17 feet 8 inches; at Louth, 21 feet 3 inches; at Tilpa, 29 feet; at Wilcannia, 31 feet 8 inches; at Menindie, 26 feet 9 inches; at Pooncarie, 23 feet 5 inches; at Wentworth, 13 feet 9 inches. Murrumbidgee: At Gundagai, 3 feet 6 inches; at Wagga, 3 feet 4 inches; at Hay, 4 feet 2 inches; at Balranald, 12 feet. Murray: At Albury, 2 feet; at Euston, 9 feet 5 inches.

ASTRONOMICAL MEMORANDA FOR MAY 6.

Sun rises at 6.39, sets at 5.13; Moon, 4.47 p.m., 4.18 a.m.; Mercury, 4.58 a.m., 4.23 p.m.; Venus, 9.37 a.m., 7.16 p.m.; Mars, 6.25 a.m., 5.4 p.m.; Jupiter, 4.26 p.m., 5.24 a.m.; Saturn, 11.37 a.m., 9.23 p.m. Full moon, 8th; new moon, 23rd. High water at Fort Denison, May 6: 7.6 a.m., 7.31 p.m.

H. A. LENEHAN,
Acting Government Astronomer.

SYDNEY OBSERVATORY.

LATITUDE 33° 51' 41" S. LONGITUDE 10h. 4m. 50·31s. E.
MAGNETIC VARIATION, 9° 35' 37" E.

Average Annual Rainfall for 28 years .... 49·439
Average for 29 years from Jan. 1 to April 30 1887 .. 20·374
Total Rainfall from Jan. 1, to May 6 1887 .... 20·527

Barometers corrected to 32° Fah. and Mean sea Level

Fine, wind N. — Cloudy, wind E — T. storm, wind S. — Rain, wind W
If it is CALM, the symbol used without the arrow
Smooth sea.
Heavy sea
Very heavy sea.

Stations.	W.T.	Mx	Mn	R'n.
Albury ..	n	61	31	0
Armidale	f	63	43	0·24
Balranald	b	82	40	0
Bathurst	f	61	28	0
Bendem'r	f	64	43	0·15
Bodalla ...	b	65	45	0
Bourke ..	b	70	41	0
Buncarra	b	72	47	0·04
C'nd'n H.	b	71	58	0
C. St. Geo.	b	67	49	0
Carcoar ..	n	57	35	0
Casino ..	b	84	55	0·[illegible]
Cassilis ..	n	59	37	0·12
Clarence .	b	78	60	0·17
C'nd'b'lin	n	64	28	0
Cooma ..	c	57	34	0
Coonab'n.	n	61	27	0·12
Cowra ..	b	64	49	0
Cudg'llico	b	76	3[illegible]	0
Deniliq'n.	b	67	35	0
Dubbo ..	b	66	31	0·03
Eden	u	60	54	0
Euston ..	b	71	31	0
Forbes ..	n	—	39	0
Glen Inn's	b	61	37	0·33
Goulburn	b	59	31	0

18—61
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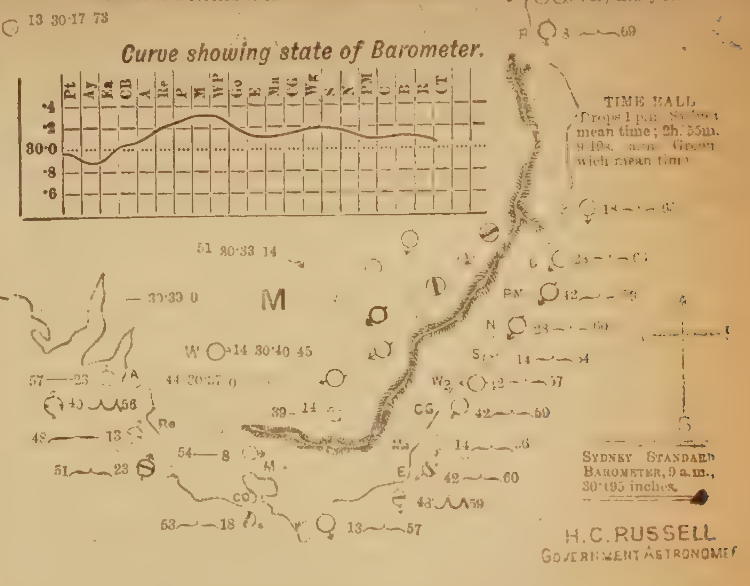
Stations.	W.T.	Mx	Mn	R'n.
Grafton ..	b	86	56	0·15
Gulgong .	b	60	30	0
Gunned'h	b	65	45	0
Hay	b	64	38	0
Inverell ..	c	67	42	0
Kiandra ..	n	52	20	0
Lismore .	b	87	62	0·44
Maitland .	b	65	56	0·30
Marsdens.	b	64	45	0
Menindie.	n	61	45	0
Molong ..	b	65	31	0
M'r'ng'r'll	b	62	36	0
Moree ..	b	79	47	0
Moruya ..	b	65	46	0
Moss Vale	b	57	39	0
Mt. Hope	b	68	41	0
M. Vict'ria	b	55	33	0
Mudgee ..	n	72	28	0·12
M'rr'mb'h	a	67	39	0
M'rr'r'ndi	c	59	45	0
Mus'lbr'k	b	69	40	0·09
Narrabri	b	75	44	0
Newcastle	b	66	51	0·25
Orange ..	n	62	37	0
[illegible]ton .	b	65	38	0
P. M'q'rie	b	73	51	0
P. St'ph'n	b	65	46	0·13
Q'nbeyan	b	64	45	0
Quirindi	f	65	48	0·42
Singleton	b	60	52	0·41
SYDNEY ..	b	60	50	0
Tamw'rth	f	60	45	0·11
Taralga ..	b	61	30	0
Taree ..	b	73	51	0·05
T'nt'rfield	f	72	52	0
Wagga ..	b	61	35	0
Walcha ..	f	64	35	0·07
Walgett ..	b	—	40	0
Warrah ..	f	72	—	0·32
W'ntw'rth	b	64	40	0
W'll'ng'ng	b	69	56	0
Young ..	n	82	32	

Curve showing state of Barometer.



NOTES EXPLANATORY OF MAP.

In the list of stations the column headed W.T. gives the state of the weather at 9 a.m., b standing for blue sky; c, detached clouds; d, drizzling rain; f, fog; g, gloomy; h, hazy; **m, misty; n, frosty; o, overcast; p, passing showers; r, rain; s, snow; t, thunder; u, threatening.** The next column. Mx gives the maximum temperature for previous 24 **hours. M'n the corresponding minimum temperature; r'n, the rain for the previous 24 hours. The symbols used in the map are explained on the margin. At each coast station the wind symbol is placed like a vane pointing to the direction from which the wind is coming. A clear circle with it means fine weather; a circle with bar, cloudy weather; and a black spot, raining. Next to this symbol are placed figures denoting the number of miles the wind is moving per hour; next, a symbol showing the state of the sea; and, lastly, figures denoting the shade temperature at 9 a.m.** The barometer **curve shows the state of barometers round the coast from Perth to Cooktown:—Pt, Perth; Ay, Albany; Ea, Eucla; CB, Cape Borda; A, Adelaide; Re, Robe; P, Portland; M, Melbourne;** WP, Wilson's Promontory; Go, Gabo; E, Eden; Ma, Moruya; CG Jervis **Bay; Wg, Wollongong;** S, Sydney; N, Newcastle; PM, Port Macquarie; C, Clarence **River; B, Brisbane; R, Rockhampton; Ct, Cooktown. Inland the state of barometer is given in figures at Albury, Deniliquin, Wentworth, Menindie, Bourke, and Alice Springs. The barometer curve enables one at a glance to trace the depressions, beginning with** Western Australia, and passing along eastwards; northerly winds **preceding them, and southerly following.**

9 A.M. OBSERVATIONS.

Western Australia.—More or less cloudy along the west coast, **with showers at Geraldton,** light variable winds and smooth sea; **on the south coast,** fine, with fresh westerly winds and rough **sea.** Rainfall: Geraldton, 0·63; Carnarvon, 0·12; Perth, 0·03; **and Esperance Bay,** 0·37 inches. Extremes of barometers and **temperature:** Geraldton, 30·04; Esperance Bay, 29·87; Perth, **52°; and Cossack, 77°.**

South Australia.—Generally overcast, gloomy, and threatening **south of Port Augusta,** with fresh to strong north to N.E. winds, **fallen barometers,** and moderate to rough sea. Thunderstorms **during night** west of Fowler's Bay. Rainfall: Fowler's Bay, **0·68; Eucla,** 0·08; and Adelaide, 0·01 inches. Extremes of **barometers and** temperature: M'Donnell Bay, 30·26 and 44°; **Port Darwin, 29·88 and 82°.**

Victoria.—Generally cloudy, unsettled, and cool, with light to **fresh N.E. to S.E winds,** risen barometers, and smooth to mode**rate sea; frosty at Ballarat.** Rainfall: 0·01 inch at Melbourne. **Extremes of barometers and** temperature: Cape Otway, 30·33; **Lakes'** Entrance, 30·25; Horsham, 58°; and Hamilton, 41°.

Tasmania.—Fine, but unsettled in north; passing showers of **misty rain in south parts,** with fresh southerly winds, risen **barometers, and moderate to rough sea.** Rainfall: Hobart, 0·70; **and** Southport, 0·30 inches. Extremes of barometers and **temperature:** Southport, 30·37 and 54°; Circular Head, 30·20; **and Hobart, 48°.**

New Zealand.—Fine on North Island, misty rain at Bluff. **Barometers:** In extreme north and south, 30·1; over centre, **30·0 inches.**

New South Wales.—Generally fine and clear, with heavy frosts in S. and W. parts; fresh to strong S.W. to S. winds along the coast, light westerly inland, slightly risen barometers, and the sea smooth to moderate, but heavy off Gabo Island. Foggy on **the ranges in north. Light rains have fallen in N.E. parts generally; heaviest on the Richmond River,** where thunderstorms occurred yesterday evening. Lawrence reports 1·05 inch to have fallen there in half an hour. Extremes of barometers and temperature: Wentworth, 30·40; Gabo Island, 30·09; Clarence, 6[illegible]; Kiandra and Albury, 39°. For further particulars see map.

Queensland.—Generally fine and cool, with fresh to strong [illegible]E. winds, fallen barometers, and moderate sea. Fierce squalls during the night at Cooktown. Rainfall: Brisbane, 0·01 inch. Extremes of barometers and temperature: Brisbane, 30·12; Townsville, 29·99; Cooktown, 82°; and Roma, 60°.

3 P.M. OBSERVATIONS.

Victoria.—Portland, N.N.E., 28, fine, smooth sea, temperature 61°; Cape Otway, E., 18, fine, but cloudy, heavy sea, temperature 58°; Cape Schanck, E., 13, fine, smooth sea, temperature 60°; Wilson's Promontory, E.N.E., 18, cloudy, moderate sea, temperature 58°; Lakes Entrance, S., 18, cloudy, temperature 6[illegible].

New South Wales.—Menindie, N., 14, fine and clear, temperature 59°; Wentworth, N., 14, fine, temperature 52°; Deniliquin, calm, overcast and dull, temperature 61°; Eden, S.W., 42, cloudy, and like rain, light easterly sea, temperature 62°; Moruya, S., 42, fine, fresh gale, smooth sea, temperature 63°; Cape St. George, S., 56, fine, gale, heavy sea and rising, temperature 62°. Sydney, S., 28, fine, but cloudy and squally, moderate sea, temperature 63°; Newcastle, S.W., 42, fine, sea rising, temperature 65°; Port Macquarie, S.S.W., 14, fine, smooth sea, temperature 6[illegible]; Clarence River, S., 25, fine, smooth sea, temperature 6[illegible]; Walgett, S., fine and clear, temperature 68°; Dubbo, calm, fine, temperature 61°; Goulburn, S., 14, fine, temperature 57°.

Queensland.—Townsville, S.E., 13, fine, temperature 78°, Roma, S., 8, fine, but cloudy, temperature, 74°; Cape Moreton, S.E., 23, fine, temperature 72°.

HEIGHT OF RIVERS ABOVE SUMMER LEVEL.

Macintyre: At Mungindi, low. Barwon: At Mogil Mogil, 2 feet 8 inches; at Walgett, 5 feet 10 inches; Namoi: At Walgett, 2 feet 10 inches. Culgoa: At Goodooga, 3 feet 4 inches. Darling: At Brewarrina, 5 feet 9 inches; at Bourke, 10 feet 4 inches, at Louth, 20 feet 6 inches; at Tilpa, 28 feet 6 inches; at Wilcannia, 31 feet; at Menindie, 26 feet 10 inches; at Pooncarie, 23 feet 6 inches; at Wentworth, 13 feet 10 inches. Murrumbidgee: At Gundagai, 3 feet 6 inches; at Wagga, 3 feet 8 inches; Hay, 3 feet 4 inches; at Balranald, 11 feet 11 inches. Murray: At Albury, 2 feet; at Euston, 9 feet 5 inches.

ASTRONOMICAL MEMORANDA FOR MAY 7.

Sun rises at 6.40, sets at 5.12; Moon, 5.30 p.m., 5.27 a.m.; Mercury, 5.1 a.m., 4.23 p.m.; Venus, 9.38 a.m., 7.16 p.m.; Mars, 6.25 a.m., 5.3 p.m.; Jupiter, 4.21 p.m., 5.19 a.m., Saturn, 11.24 a.m., 9.20 p.m. Full moon, 8th; new moon, 23rd.
High water at Fort Denison: 7.55 a.m., 8.18 p.m.

H. A. LENEHAN,
Acting Government Astronomer.

[illegible]		
[illegible]		
Armidale	c	[illegible]
Balranald	g	[illegible]
Bathurst	u	[illegible]
[illegible]	u	[illegible]
[illegible]	b	[illegible]
Bourke	o	[illegible]
Bungarra	u	74 [illegible] 0
Cmd'n H.	b	61 53 0
C. St. Geo.	b	67 59 0
Carcoar	g	[illegible]
Casino	b	78 46 0
Cassilis	o	61 45 0 0
Clarence	b	72 56 0
C'nd'b'lin	u	70 [illegible]
Cooma	c	[illegible] 12 0 [illegible]
Coonab'n.	g	62 49 0·05
Cowra	c	63 45 0·32
Cudg'llico	b	62 46 0·55
Deniliq'n.	g	67 39 0·14
Dubbo	c	59 47 0·14
Eden	b	66 52 0
Euston	c	67 35 0
Forbes	b	[illegible] 41 0·2[illegible]
Glen Inn's	b	68 34 0
Goulburn	u	55 43 0·18
Grafton	b	79 49 0·02
Gulgong	u	[illegible] 34 0·15
Gunned'h	c	63 45 0·11
Hay	b	65 40 0·22
Inverell	c	69 45 0
Kiandra	g	50 [illegible] 0·00
Lismore	b	81 5[illegible] 0·01
Maitland	b	63 48 0·15
Marsdens.	u	65 44 0·54
Menindie	b	65 51 0
Molong	u	52 39 0·42
M'r'ng'r'll	b	69 51 0·57
Moree	g	81 45 0
Moruya	b	67 47 0·03
Moss Vale	b	55 45 0·06
Mt. Hope	b	76 47 0·62
M. Vict'ria	b	55 33 0·26

Mudgee	u	71 35 0·01
M rr'mb'h	g	61 42 0·28
M'rr'r'ndi	c	78 45 0·16
Mus'lbr'k	b	67 40 0·08
Narrabri	b	74 45 0
Newcastle	b	65 49 0·10
Orange	c	57 46 0·05
Pi ton	b	61 42 0·02
P. M'q'rie	b	69 51 0
P. St'ph'n	c	65 46 0·13
Q'nbeyan	c	55 30 0·30
Quirindi	u	72 44 0·17
Singleton	b	58 51 0·22
SYDNEY	b	59 52 0·03
Tamw'rth	u	60 40 0·11
Taralga	g	73 34 0·20
Taree	b	64 52 0·01
T'nt'rfield	b	70 35 0
Wagga	g	56 40 0·30
Walcha	g	63 37 0·04
Walgett	-	— — -
Warrah	b	55 — 0·19
W'ntw'rth	g	65 46 0·28
W'll'ng'ng	b	64 57 0
Young	b	59 46 0·51

NOTES EXPLANATORY OF MAP.

In the list of stations the column headed W.T. gives the state of the weather at 9 a.m., b standing for blue sky; c, detached clouds; d, drizzling rain; f, fog; g, gloomy; h, hazy; m, misty; o, overcast; p, passing showers; r, rain; s, snow; t, thunder; u, threatening. The next column Mx gives the maximum temperature for previous 24 hours. Mn the minimum temperature; Rn. the rain for the previous 24 hours. The symbols on the map are explained on the margin. At each coast station the wind symbol is placed like a vane pointing to the direction from which the wind is coming. A clear circle with it means fine weather; a circle with bar, cloudy weather; and a black circle, raining. Next to this symbol are placed figures denoting the number of miles the wind is moving per hour; next, a symbol showing the state of the sea; and, lastly, figures denoting the shade temperature at 9 a.m. The barometer curve shows the state of barometers round the coast from Perth to Cooktown:—Pt, Perth; Ay, Albany; Ea, Eucla; CB, Cape Borda; A, Adelaide; Re, Robe; P, Portland; M, Melbourne; W. P. Wilson's Promontory; Go, Gabo; E, Eden; Ma, Moruya; CG Jervis Bay; Wg, Wollongong; S, Sydney; N, Newcastle; PM, Port Macquarie; C, Clarence River; B, Brisbane; R, Rockhampton; Ct, Cooktown. Inland the state of barometer is given in figures at Albury, Deniliquin, Wentworth, Menindie, Bourke, and Alice Springs. The barometer curve enables one at a glance to trace the depressions, beginning with Western Australia, and passing along eastwards; northerly winds preceding them, and southerly following.

9 A.M. OBSERVATIONS.

Western Australia.—Fine along the west coast, with light variable winds and calms, threatening in south parts, with passing showers at Albany, and light S. to W. winds; the sea moderate. Rainfall: Albany 0·37 inch. Extremes of barometers and temperature: Perth, 30·20; Cossack, 29·90 and 83·; Esperance Bay, 51·.

South Australia.—Generally more or less cloudy and gloomy, principally on and near the coast, with light variable winds and calms, risen barometers, and smooth to moderate sea. Rainfall: Port Augusta, 0·46; Beltana, 0·21; Farina, 0·15; Adelaide 0·05; Port Lincoln, 0·07; Overland Corner, 0·05; and Cape Borda, 0·03 inch. Extremes of barometers and temperature: Farina, 30·30; Port Darwin, 29·81 and 77·; Robe, 53·.

Victoria.—Generally cloudy and gloomy, with passing showers along the coast, fresh W. to N. W. winds, risen barometers, and moderate to rather rough sea. Rainfall; Cape Schank, 0·54; Omeo, 0·23; Portland, 0·23; Lakes Entrance, 0·20; Wilson's Promontory, 0·18; and Cape Otway, 0·07 inches. Extremes of barometers and temperature: Echuca and Ballarat, 30·16; Lakes Entrance, 29·93; Horsham, 59·; and Omeo, 4[illegible]·.

Tasmania.—Generally cloudy and unsettled, with light S. to W. winds, fallen barometers, and moderate to rough sea. Rainfall: 0·05 inch at Southport. Extremes of barometers and temperature: Circular Head, 29·98 and 55·; Falmouth, 29·83; and Hobart, 51·.

New Zealand.—Fine in extreme north and south; showery, with strong N.E. wind, at Gisborne; gloomy at Wellington; winds, easterly. Barometers: In north, 29·9; to southward, 30·3.

New South Wales.—Generally cloudy, gloomy, and unsettled, except in N.W. parts and along the coast, where it is fine; light to fresh W. to S. winds and calms at places; barometers steady in W., but fallen on the coast; the sea smooth to moderate, but rather rough off Gabo Island. During the previous 48 hours light rains fell generally over the colony, principally along the western slopes of the ranges, and heaviest in the districts between the Upper Lachlan and Murrumbidgee rivers, where several scattered stations report over half an inch fallen. Extra station: Narandera, rainfall 0·49 inch. Extremes of barometers and temperature: Wentworth and Menindie, 30·26; Gabo Island, 29·88; Port Macquarie, 61·; and Kiandra, 39·. For further particulars see map.

Queensland.—Generally fine and cool, with light to fresh S.E. to S.W. winds, slightly fallen barometers, and moderate to rough sea. No rain reported. Extremes of barometers and temperature: Cooktown, 30·05 and 83· (sea rough); Townsville, 29·93 and Roma, 55·.

3 P.M. OBSERVATIONS.

Victoria.—Portland, W., 28, cloudy, like rain, smooth sea, temperature 60·; Cape Otway, W.N.W., 34, showery, slight sea, temperature 53·; Melbourne, W.S.W., 13, overcast and gloomy, temperature 56·; Cape Schanck, W.S.W., 23, overcast and gloomy, moderate sea, temperature 64·; Wilson's Promontory, **W.S.W., 23, cloudy and squally, rough sea, temperature 55·; Lakes' Entrance, W., 23, gloomy, like rain, temperature 60·.**

New South Wales.—Wentworth, S.W., 14, cloudy and dull, temperature 55·; Deniliquin, S., 14, dull, like rain, temperature 61·; Eden, W.S.W., 42, fine, smooth sea, temperature 60·; Moruya, E.N.E., 14, fine, smooth sea, temperature 61·; Cape St. George, S., 28, fine, moderate sea, temperature 62·; Sydney, S., 9, fine, light scattered clouds, moderate sea, temperature 62·; Newcastle, S.W., 14, fine, smooth sea, temperature 67·; Port Macquarie, S.S.W., 42, fine, moderate sea, temperature 69·; Clarence River, S.W., 14, fine, smooth sea, temperature 70·; Walgett, calm, cloudy, temperature 66·; Dubbo, calm, fine but cloudy, temperature 62·; Goulburn, N.W., 14, fine, temperature 57·.

Queensland.—Normanton, calm, sultry, and cloudy, temperature 94·; Townsville, S.E., 8, fine and clear, temperature 78·; Rockhampton, S.W., 8, fine, temperature 72·; Roma, S., 8, fine and clear, temperature 68·; Cape Moreton, S., 23, fine and clear, temperature 69·; Brisbane, S.S.W., 13, fine and clear, temperature 72·.

HEIGHT OF RIVERS ABOVE SUMMER LEVEL.

Macintyre: At Mungindi, low. Barwon: At Mogil Mogil, 2 feet 4 inches; at Walgett, 5 feet 5 inches. **Namoi**: At Walgett, 2 feet 5 inches. Culgoa: At Goodooga, 3 feet. Darling: At Brewarrina, 5 feet; at Bourke, 12 feet 9 inches; at Louth, 16 feet; at Tilpa, 25 feet 8 inches; at Wilcannia, 31 feet 2 inches; at Menindie, 26 feet 11 inches; at Pooncarie, 24 feet 5 inches; at Wentworth, 13 feet 10 inches. Murrumbidgee: At Gundagai, 3 feet 6 inches; at Wagga, 4 feet; at Hay, 3 feet 3 inches; at Balranald, 10 feet. Murray: At Albury, 2 feet 2 inches; at Euston, 9 feet 2 inches.

ASTRONOMICAL MEMORANDA FOR MAY 10.

Sun rises at 6.42, sets at 5.10; **Moon, 7.57 p.m., 8.45 a.m.**; Mercury, 5.16 a.m., 4.26 p.m.; Venus, 9.42 a.m., 7.19 p.m.; Mars, 6.25 a.m., 4.58 p.m.; Jupiter, 4.9 p.m., 5.6 a.m.; Saturn, 11.13 a.m., 9.10 p.m. Full moon, 8th; new moon, 23rd.

High water at Fort Denison: 10.7 a.m., 10.28 p.m.

H. A. LENEHAN,
Acting Government Astronomer.

Stations	W.T.	Mx	Mn	R'n
Albury ..	b	61	42	0
Armidale	n	57	37	0
Balranald	-	-	-	
Bathurst	f	60	37	0
Bendem'r	f	60	40	0
Bodalla ..	b	70	37	0
Bourke ..	b	70	42	0
Buncarra	f	69	39	0
C'md'n H.	b	70	54	0
C. St. Geo.	b	64	46	0
Carcoar ..	g	54	35	0
Casino ..	b	75	36	0
Cassilis ..	n	56	49	0
Clarence .	b	74	55	0
C'nd'b'lin	u	64	35	0
Cooma ..	f	50	22	0
Coonab'n.	n	59	27	0
Cowra ..	g	71	50	0
Cudg'llico	b	65	48	0
Deniliq'n.	g	68	41	0
Dubbo ..	f	65	31	0
Eden	b	60	46	0
Euston ..	c	61	45	0
Forbes ..	g	—	38	0
Glen Inn's	n	60	31	0
Goulburn	g	59	33	0
Grafton ..	b	78	48	0
Gulgong .	b	60	28	0
Gunned'h	f	63	40	0
Hay ..	c	63	40	0
Inverell ..	b	61	35	0
Kiandra ..	n	52	29	0
Lismore .	b	78	50	0
Maitland .	b	69	50	0
Marsdens.	c	64	52	0
Menindie.	u	61	52	0
Molong ..	g	49	39	0
M'r'ng'r'll	c	63	44	0
Moree ..	b	70	40	0
Moruya ..	g	66	42	0
Moss Vale	n	56	39	0
Mt. Hope	u	66	49	0
M. Vict'ria	n	53	33	0
Mudgee ..	f	69	29	0
M'rr'mb'h	u	66	46	0
M'rr'r'ndi	b	59	42	0
Mus'lbr'k	b	70	37	0
Narrabri	b	67	40	0
Newcastle	b	69	48	0
Orange ..	c	54	39	0
Parkes ..	n	63	35	0
P M'q'rie	b	71	48	0
P St'ph'n	b	65	46	0
Q'nbeyan	g	54	41	0
Quirindi	f	72	41	0
Singleton	b	69	54	0
SYDNEY ..	b	64	49	0
Tamw'rth	f	63	57	0
Taralga ..	u	66	37	0
Taree ..	b	77	50	0
T'nt'rfield	b	66	33	0
Wagga ..	b	61	40	0
Walcha ..	b	63	32	0
Walgett ..	n	—	42	0
Warrah ..	b	62	—	0
W'ntw'rth	b	63	49	0
W'll'ng'ng	b	69	53	0
Young ..	g	76	45	0

SYDNEY OBSERVATORY.

LATITUDE 33° 51' 41" S. LONGITUDE 10h. 4m. 50·31s. E.

MAGNETIC VARIATION, 9° 35' 37" E.

Average Annual Rainfall for 28 years..............49·489

Average for 29 years from Jan. 1 to April 30 1887 ..20·374

Total rainfall from Jan. 1, to May 10 1887 ....20·880

Barometer reduced to 32° Fah. and Mean Sea Level

Fine, wind N. Cloudy, wind E. T. storm, Rain, wind S. wind W.

If it is CALM, the symbol used without the arrow

Smooth sea.

Heavy sea

Very heavy sea.

NOTES EXPLANATORY OF MAP.

In the list of stations the column headed W.T. gives the state of the weather at 9 a.m., b standing for blue sky; c, detached clouds; d, drizzling rain; f, fog; g, gloomy; h, hazy; m, misty; n, fr... sty; o, overcast; p, passing showers; r, rain; s, snow; t, thunder; u, threatening. ... next column. M'x gives the maximum temperature for previous 24 hours. M'n the corresponding minimum temperature; r'n, the rain for the previous 24 hours. The symbols used in the map are explained on the margin. At each coast station the wind symbol is placed like a vane pointing to the direction from which the wind is coming. A clear circle with it means fine weather; a circle with bar, cloudy weather; and a black spot, raining. Next to this symbol are placed figures denoting the number of miles the wind is moving per hour; next, a symbol showing the state of the sea; and, lastly, figures denoting the shade temperature at 9 a.m. The barometer curve shows the state of barometers round the coast from Perth to Cooktown:—Pt, Perth; Ay, Albany; Ea, Eucla; CB, Cape Borda; A, Adelaide; Re, Robe; P, Portland; M, Melbourne; W P, Wilson's Promontory; Go, Gabo; E, Eden; Ma, Moruya; C G, Jervis Bay; Wg, Wollongong; S, Sydney; N, Newcastle; P M, Port Macquarie; C, Clarence River; B, Brisbane; R, Rockhampton; Ct, Cooktown. Inland the state of barometer is given in figures at Albury, Deniliquin, Wentworth, Menindie, Bourke, and Alice Springs. The barometer curve enables one at a glance to trace the depressions, beginning with Western Australia, and passing along eastwards; northerly winds preceding them, and southerly following.

9 A.M. OBSERVATIONS.

Western Australia.—Generally fine, but unsettled in S.E. parts, with light variable winds and calms, rising barometers, and the sea smooth, but rough off Esperance Bay. Rainfall: Esperance Bay, 0·07 inch. Extremes of barometers and temperature: In south parts, 30·30; Carnarvon, 29·97 and 77°; Esperance Bay, 50°.

South Australia.—Generally cloudy and unsettled south of Burra, with light rains falling at places along the coast; fine north of Burra; fresh N.W. to S.W. winds, risen barometers, and moderate to rough sea. Rains have fallen on and near the coast—heaviest at Ringston, 0·62; Normanville, 0·61; Queenscliffe, 0·53; Port Lincoln, 0·28; Adelaide, 0·26; Robe and M'Donnell Bay, 0·22 inch. Extremes of barometers and temperature: Farina, 30·26; Port Darwin, 29·85 and 81°; Robe, 56°.

Victoria.—Generally cloudy and gloomy, with showers in S.W. parts, fresh to strong N. to W. winds, fallen barometers, and moderate to rough sea. Rainfall: Portland, 0·12; Cape Otway, 0·03; and Wilson's Promontory, 0·01 inch. Extremes of barometers and temperature: Omeo, 30·05 and 41°; Wilson's Promontory, 29·95; and Horsham, 59°.

Tasmania.—Showery and squally on the north coast, cloudy and gloomy to southward, with light to fresh westerly winds, fallen barometers, and rough sea. Rainfall: Circular Heads, 0·16; and Low Heads, 0·12 inch. Extremes of barometers and temperature: Low Heads, 29·86 and 56°; Southport, 29·74; and Hobart, 46°.

New Zealand.—Generally gloomy, with passing showers and E. to S.E winds. Barometers: In north, 29·8; over centre, 30·0; and in south, 30·1 inch.

New South Wales.—Generally fine on and near the coast, foggy and frosty along the ranges, and cloudy and unsettled in S.W. parts; light variable winds inland, westerly on the coast, slightly fallen barometers, and moderate to rough sea. Gabo Island, 0·01 inch rain fallen, this being the only station reporting rain. Extremes of barometers and temperature: Menindie, 30·25; Gabo Island, 29·9; Newcastle, 58°; and Kiandra, 33°.

Queensland.—Generally fine and cool, with light to fresh S. to S.E. winds, slightly risen barometers, and smooth to moderate sea; no rain reported. Extremes of barometers and temperature: Roma, 30·07 and 52°; Brisbane, 30·07; and Cooktown, 83°.

3 P.M. OBSERVATIONS.

Victoria.—Portland, S.W., 23, cloudy, smooth sea, temperature 56°; Cape Otway, W., 34, overcast and misty, moderate sea; Melbourne, W.N.W., 13, overcast and showery, temperature 54°; Cape Schanck, S.S.W., 23, showery, moderate sea, temperature 59°; Wilson's Promontory, W.N.W., 34, overcast, rough sea, temperature 57°; Lakes' Entrance, W., 23, fine but cloudy, temperature 64°.

New South Wales.—Menindie, S.E., 14, fine but cloudy, temperature 64°; Wentworth, W., 14, fine, temperature 56°; Deniliquin, calm, fine, temperature 63°; Eden, S.W., 14, fine, light east sea, temperature 64°; Moruya, N.E., 14, fine, rough sea, temperature 62°; Cape St. George, S., 14, fine, sea heavy and moderating, temperature 61°; Sydney, W., 6, fine, thick haze, smooth sea, temperature 60°; Newcastle, W., 14, fine, moderate sea, temperature 67°; Port Macquarie, S.E., 14, fine, heavy sea, temperature 70°; Clarence River, E., 14, fine, moderate sea, temperature 68°; Walgett, S.S.E., 14, fine, temperature 67°; Dubbo, S.W. 14, fine but cloudy, temperature 59°; Goulburn, N.W., 14, fine, temperature 55°.

Queensland.—Cooktown, S.E., 8, fine and clear, moderate sea, temperature 81°; Normanton, S.E., 8, fine but cloudy, temperature 87°; Townsville, S.E., 13, fine and clear, temperature 77°; Roma, calm, fine and clear, temperature 71°; Brisbane, calm, fine and clear, temperature 75°.

HEIGHT OF RIVERS ABOVE SUMMER LEVEL.

Macintyre: At Mungindi, low. Barwon: At Mogil Mogil, low; at Walgett, 5 feet 4 inches. Namoi: At Walgett, 2 feet 4 inches. Culgoa: At Goodooga, 2 feet 11 inches. Darling: At Brewarrina, 4 feet 9 inches; at Bourke, 12 feet; at Louth, 14 feet 6 inches; at Tilpa, 24 feet 6 inches; at Wilcannia, 31 feet; at Menindie, 26 feet 11 inches; at Pooncarie, 23 feet 5 inches; at Wentworth, 13 feet 10 inches. Murrumbidgee: At Gundagai, 3 feet 6 inches; at Wagga, 3 feet 9 inches; at Hay, 3 feet. Murray: At Albury, 2 feet 2 inches; at Euston, 9 feet 1 inch.

ASTRONOMICAL MEMORANDA FOR MAY 11.

Sun rises at 6.43, sets at 5.9; Moon, 8.52 p.m., 9.45 a.m.; Mercury, 5.20 a.m., 4.26 p.m.; Venus, 9.44 a.m., 7.20 p.m.; Mars, 6.24 a.m., 4.56 p.m.; Jupiter, 4.5 p.m., 5.1 a.m.; Saturn, 11.9 a.m., 9.6 p.m. Full moon, 8th; new moon, 23rd.

High water at Fort Denison: 10.49 a.m., 11.11 p.m.

H. A. LENEHAN,
Acting Government Astronomer.

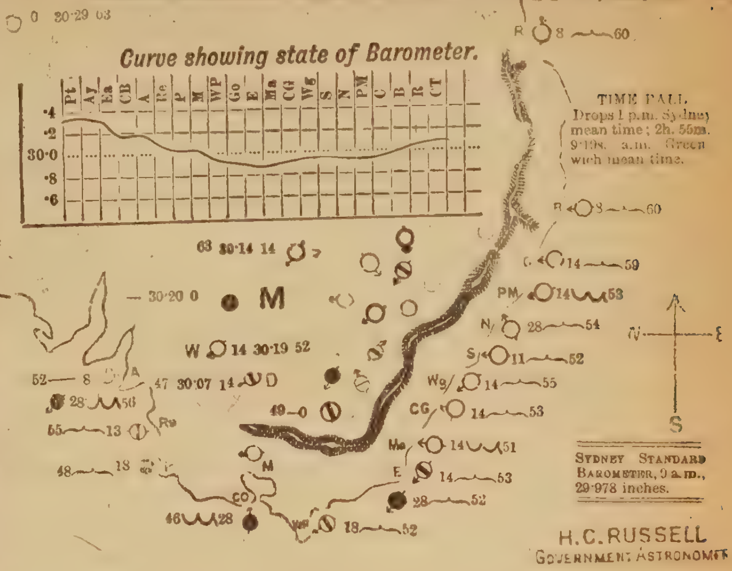
Stations.	W.T.	Mx	Mn	Rn
Albury ..	u	55	[illegible]	0·47
Armidale	n	56	3[illegible]	0
Balranald	f	78	38	0
Bathurst	c	5[illegible]	37	0
Bendem'r	f	62	32	0
Bodalla ..	b	68	36	0
Bourke ..	b	60	41	0
Buncarra	b	63	36	0
C'md'n H.	b	70	48	0
C. St. Geo.	b	63	43	0
Carcoar ..	g	50	34	0
Casino ..	b	78	42	0
Cassilis ..	c	56	50	0
C'arence .	b	71	5[illegible]	0
C'nd'b'lin	g	64	35	0
Cooma ..	c	59	29	0
Coonab'n.	g	70	31	0
Cowra	b	[illegible]	46	0
Cud'lli'o	u	6[illegible]	45	0
Deniliq'n.	c	69	42	0·12
Dubbo ..	b	58	50	0
Eden	u	52	47	0
Euston ..	b	74	41	0·03
Forbes ..	g	—	39	0
Glen Inn's	b	64	29	0
Goulburn	b	54	29	0
Grafton ..	b	78	47	0
Gulgong .	b	57	33	0
Gunned'h	b	63	37	0
Hay ..	b	64	47	0·01
Inverell ..	b	60	33	0
Kiandra ..	s	48	28	0·04
Lismore .	f	81	49	0
Maitland .	b	65	50	0
Marsdens.	u	62	51	0
Menindie.	r	70	51	0·07
Molong ..	b	54	37	0
M'r'ng'r'll	c	59	44	0
Moree ..	b	79	40	0
Moruya ..	b	65	43	0
Moss Vale	n	53	38	0
Mt. Hope	u	68	49	0
M. Vict'ria	n	54	32	0
Mudgee ..	n	66	32	0
M'rr'mb'h	t	58	38	0
M'rr'r'ndi	b	58	45	0
Mus'lbr'k	b	65	35	0
Narrabri	g	74	36	0
Newcastle	b	64	45	0
Orange ..	b	50	37	0
P. ton	n	60	36	0
P. M'q'rie	b	68	44	0
P. St'ph'n	b	65	42	0
Q'nbeyan	n	54	38	0
Quirindi	f	70	41	0
Singleton	b	63	49	0
Sydney ..	b	61	49	0
Tamw'rth	–	–	—	-
Taralga	b	63	31	0
Taree ..	b	72	47	0
T'nt'rfield	b	66	30	0
Wagga ..	r	62	39	0
Walcha ..	u	63	26	0
Walgett ..	b	—	46	0
Warrah ..	b	62	—	0
W'ntw'rth	b	70	50	0
W'll'ng'ng	b	70	52	0
Young ..	g	62	37	0

SYDNEY OBSERVATORY.

LATITUDE 33° 51' 41" S. LONGITUDE 10h. 4m. 50·81s. E.
MAGNETIC VARIATION, 9° 35' 37" E.

Average Annual Rainfall for 28 years ....49·430
Average for 29 years from Jan. 1 to April 30 1887 ..20·374
Total Rainfall from Jan. 1, to May 11 1887 .... 20·886
Barometers corrected to 32° Fah. and Mean Sea Level

Fine, wind N. Cloudy, wind E. T. storm, wind S. Rain, wind W. If it is CALM, the symbol used without the arrow. Smooth sea. Heavy sea. Very heavy sea.



NOTES EXPLANATORY OF MAP.

In the list of stations the column headed W.T. gives the state of the weather at 9 a.m., b standing for blue sky; c, detached clouds; d, drizzling rain; f, fog; g, gloomy; h, hazy; m, misty; n, frosty; o, overcast; p, passing showers; r, rain; s, snow; t, thunder; u, threatening. The next column, M'x gives the maximum temperature for previous 24 hours. M'n the corresponding minimum temperature; r'n, the rain for the previous 24 hours. The symbols used in the map are explained on the margin. At each coast station the wind symbol is placed like a vane pointing to the direction from which the wind is coming. A clear circle with it means fine weather, a circle with bar cloudy weather; and a black spot, raining. Next to this symbol are placed figures denoting the number of miles the wind is moving per hour; next a symbol showing the state of the sea; and, lastly, figures denoting the shade temperature at 9 a.m. The barometer curve shows the state of barometers round the coast from Perth to Cooktown — Pt, Perth; Ay, Albany; Ea, Eucla; CB, Cape Borda; A, Adelaide; Ro, Robe; P, Portland; M, Melbourne; WP, Wilson's Promontory; Go, Gabo; E, Eden; Ma, Moruya; CG, Jervis Bay; Wg, Wollongong; S, Sydney; N, Newcastle; PM, Port Macquarie; C, Clarence River; B, Brisbane; R, Rockhampton; Ct, Cooktown. Inland the state of barometer is given in figures at Albury, Deniliquin, Wentworth, Menindie, Bourke, and Alice Springs. The barometer curve enables one at a glance to trace the depressions, beginning with Western Australia, and passing along eastwards; northerly winds preceding them, and southerly following.

9 A.M. OBSERVATIONS.

Western Australia.—Generally fine and cool, with light to fresh easterly winds along the west coast, and N. to W. winds in south parts, risen barometers, and smooth to moderate sea. Extremes of barometers and temperature: Esperance Bay, 30·37 and 40°; Carnarvon, 29·98 and 77°.

South Australia.—Generally cloudy and unsettled with light rain at places south of Port Augusta, light to fresh N.W. to S.W. winds, risen barometers, and moderate to rough sea. Rains have fallen on and near the coast; Adelaide, 0.88; Clarendon, 0·72; Echunga, 0·60; many stations over 0·25 inches, and others lesser quantities. Extremes of barometers and temperature: Eucla, 30·33; Port Darwin, 29·88 and 82°; M'Donnell Bay, 52°.

Victoria.—Generally showery, overcast, and unsettled, with fresh to strong westerly winds, almost steady barometers, and moderate to rather rough sea. Rainfall: Cape Otway, 0·51; Wilson's Promontory, 0·32; Melbourne, 0·57; Cape Schanck, 0·21; Echuca, 0·28; and other stations smaller quantities. Extremes of barometers and temperature: Ballarat, 30·10; Lakes' Entrance, 29·94; Horsham, 58°; and Omeo, 43°.

Tasmania.—Generally fine but unsettled, with light N. to W. winds, slightly risen barometers, and moderate sea. Rainfall: Southport, 0·09; and Circular Heads, 0·08 inches. Extremes of barometers and temperature: Circular Heads, 29·92; Southport, 29·86 and 44°; Hobart, 49°.

New Zealand.—Passing showers at Wellington, fine in north and south; calm on North Island. E. wind at Bluff. Barometers: In north and over centre, 29·8; in south, 29·7 inches.

New South Wales.—Fine along the coast and in extreme north parts, frosty along the ranges, with fog at places, and snow falling at Kiandra; west of the ranges, unsettled, with more or less clouds, and rain falling at places on the Upper Murrumbidgee and Lower Darling. During the previous 24 hours light rains fell along the Victorian border, the heaviest fall being 0·47 inch, at Albury. Winds were light, from W. and S.W., and the sea moderate, but rough at Moruya and Port Macquarie. Extra station: Gabo Island, rainfall 0·28 inch. Extremes of barometers and temperature: Menindie, 30·20; Gabo Island, 29·90; Bourke, 63; and Kiandra, 35°. For further particulars see map.

Queensland.—Generally fine and cool, with light to fresh W. to S.E. winds, fallen barometers, and smooth to moderate sea; no rain reported. Extremes of barometers and temperature: Roma, 30·10 and 53°; Brisbane, 30·02; and Cooktown, 82°.

3 P.M. OBSERVATIONS.

Victoria.—Portland, W.N.W., 23, showery, smooth sea, temperature 52°; Cape Otway, W.N.W., 40, threatening, rough sea, temperature 51°; Melbourne, N.W., 13, fine, but cloudy, temperature 56.; Cape Schanck, W.N.W., 23, fine, but cloudy, moderate sea, temperature 58°; Wilson's Promontory, W., 23, passing showers, squally sea, temperature 53°; Lakes' Entrance, W., 13, threatening, temperature 58°.

New South Wales.—Menindie, S.W., 14, fine and cool, temperature 62°; Wentworth, W., 14, fine, temperature 58°; Deniliquin, W., 14, fine, temperature 62°; Eden, S.W., 14, overcast, like rain, light E. sea, temperature 56°; Moruya, calm, fine, but cloudy, moderate sea, temperature 59°; Cape St. George, S., 28, fine, moderate sea, temperature 61°; Sydney, S., 12, fine, but cloudy, smooth sea, temperature 60°; Newcastle, W., 14, fine, moderate sea, temperature 65°; Port Macquarie, S.S.W., 14, fine, heavy sea, temperature 68°; Clarence River, N.E., 14, fine, moderate sea, temperature 68°; Walgett, S.W., cloudy and dull, temperature 63°; Goulburn, W., 14, dull, temperature 57°.

Queensland.—Normanton, S.E., 13, fine, temperature 73°; Townsville, calm, fine and clear, temperature 77°; Roma, S.E., 28, fine and cold; Rockhampton, N.W., 8, fine, temperature 73°; Roma, S.W., 8, fine, temperature 64°; Cape Moreton, S.W., 23, fine, temperature 64°.

HEIGHT OF RIVERS ABOVE SUMMER LEVEL.

Macintyre: At Mungindi, low. **Barwon:** At Mogil Mogil, low; at Walgett, 5 feet 2 inches. **Namoi:** At Walgett, 2 feet 2 inches. **Culgoa:** At Goodooga, 2 feet 10 inches. **Darling:** At Brewarrina, 4 feet 6 inches; at Bourke, 11 feet 4 inches; at Louth, 13 feet 6 inches; at Tilpa, 23 feet 2 inches; at Wilcannia, 30 feet 6 inches; at Menindie, 26 feet 11 inches; at Pooncarie, 23 feet 5 inches; at Wentworth, 13 feet 10 inches. **Murrumbidgee:** At Gundagai, 3 feet 6 inches; at Wagga, 3 feet 9 inches; at Hay, 3 feet; at Balranald, 9 feet 6 inches. **Murray:** At Albury, 2 feet; at Euston, 9 feet.

ASTRONOMICAL MEMORANDA FOR MAY 12.

Sun rises at 6.44, sets at 5.8; Moon, 9.42 p.m., 10.40 a.m.; Mercury, 5.25 a.m., 4.27 p.m.; Venus, 9.45 a.m., 7.21 p.m.; Mars, 6.24 a.m., 4.54 p.m.; Jupiter, 4.1 p.m., 4.57 a.m.; Saturn, 11.5 a.m., 9.3 p.m. Full moon, 8th; new moon, 23rd.

High water at Fort Denison: 11.32 a.m., 11.54 p.m.

H. A. LENEHAN,
Acting Government Astronomer.

Stations.	W.T.	Mx.	Mn.	Rn.
Albury ..	u	57	40	0·04
Armidale	b	48	41	0
Balranald	b	80	38	0
Bathurst	c	55	30	0·02
Bendem'r	c	[illegible]	33	0·06
Bodalla ..	b	61	[illegible]	[illegible]
Bourke ..	b	75	42	0
Buncarra	b	61	40	0
C'md'n H.	b	64	49	0
C. St. Geo.	b	63	44	0
Carcoar ..	g	53	34	0·12
Casino ..	b	75	40	0
Cass'lis ..	n	55	41	0·05
Clarence ..	b	70	51	0
C'nd'b'lin	u	65	31	0
Cooma ..	n	57	24	0·05
Coonab'n.	b	[illegible]	[illegible]	0
Cowra	c	58	40	0·04
Cudg'llico	b	62	40	0
Deniliq'n.	g	72	41	0
Dubbo ..	b	62	33	0·08
Eden	b	56	44	0·11
Euston ..	c	67	35	0
Forbes ..	b	—	37	0
Glen Inn's	b	51	33	0
Goulburn	b	54	30	0
Grafton ..	b	79	45	0
Gulgong .	b	58	32	0·15
Gunned'h	b	60	39	0
Hay ..	—	—	—	-
Inverell ..	b	75	32	0
Kiandra ..	s	42	28	0·04
Lismore ..	b	75	46	0
Maitland .	b	65	47	0
Marsdens.	c	61	47	0·03
Menindie.	g	65	49	0
Molong ..	r	42	32	0·05
M'r'ng'r'll	c	62	39	0·03
Moree ..	h	68	42	0
Moruya ..	b	62	42	0·06
Moss Vale	n	53	37	0·05
Mt. Hope	u	62	43	0
M. Vict'ria	b	51	32	0
Mudgee ..	c	58	40	0·05
M'rr'mb'h	o	57	34	0·03
M'rr'r'ndi	b	58	42	0
Mus'lbr'k	h	64	32	0
Narrabri	f	64	38	0
Newcastle	b	66	44	0
Orange ..	c	51	33	0·13
[illegible]ton	h	61	39	0
[illegible] M'q'rie	h	65	43	0
[illegible] St'ph'n	h	61	43	0
[illegible]rbeyan	n	53	40	0
Quirindi	b	58	43	0
Singleton	b	61	49	0
SYDNEY .	b	63	47	0·03
Tamw'rth	.	—	—	-
Taralga	g	58	29	0
Taree ..	b	68	44	0
T'nt'rfield	b	58	37	0
Wagga ..	g	61	31	0
Walcha ..	n	63	26	0·05
W'lgett ..	h	—	43	0
Warrah .	n	55	—	0
W'ntw'rth	c	67	46	0
W'll'ng'ng	b	69	48	0
Young ..	r	54	31	0·03

SYDNEY OBSERVATORY.

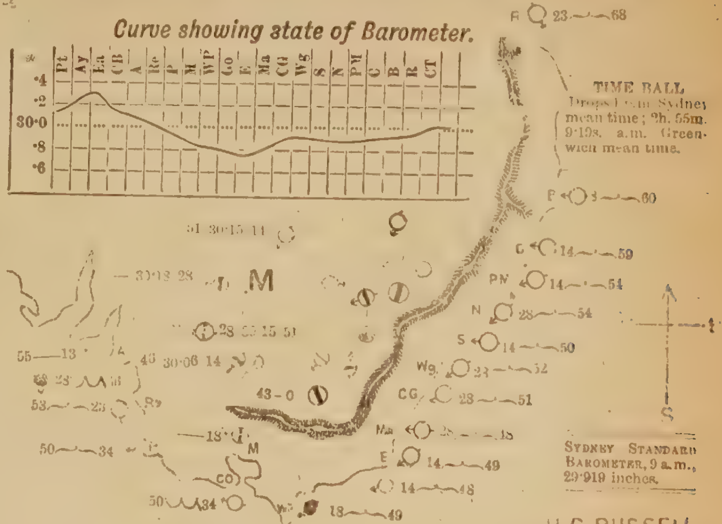
LATITUDE 33° 51' 41" S. LONGITUDE 10h. 4m. 50·31s. E.
MAGNETIC VARIATION, 9° 35' 37" E.

Average Annual Rainfall for 28 years .... 49·489
Average for 28 years from Jan. 1 to April 30 1887 . 20·374
Total Rainfall from Jan. 1, to May 12 1887 ... 20·0[illegible]

Barometers corrected to 32° Fah. and Mean Sea Level

Fine, wind N. Cloudy, wind E. T. storm, wind S. Rain, wind W.
If it is CALM, the symbol used without the arrow.
Smooth sea.
Heavy sea.
Very heavy sea.

Curve showing state of Barometer.



H. C. RUSSELL
GOVERNMENT ASTRONOMER

NOTES EXPLANATORY OF MAP.

In the list of stations the column headed W.T. gives the state of the weather at 9 a.m., b standing for blue sky; c, detached clouds; d, drizzling rain; f, fog; g, gloomy; h, hazy; m, misty; n, [illegible]; o, overcast; p, passing showers; r, rain; s, snow; t, thunder; u, threatening. The next column, Mx gives the maximum temperature for previous 24 hours. Mn the corresponding minimum temperature; Rn, the rain for the previous 24 hours. The symbols used in the map are explained on the margin. At each coast station the wind symbol is placed like a vane pointing to the direction from which the wind is coming. A clear circle with it means fine weather, a circle with bar, cloudy weather, and a black spot, raining. Next to this symbol are placed figures denoting the number of miles the wind is moving per hour; next a symbol showing the state of the sea, and lastly, figures denoting the shade temperature at 9 a.m. The barometer curve shows the state of barometers round the coast from Perth to Cooktown:—Pt, Perth; Ay, Albany; Ea, Eucla; CB, Cape Borda; A, Adelaide; Re, Robe; P, Portland; M, Melbourne; WP, Wilson's Promontory; Go, Gabo; E, Eden; Ma, Moruya; CG, Jervis Bay; Wg, Wollongong; S, Sydney; N, Newcastle; PM, Port Macquarie; C, Clarence River; B, Brisbane; R, Rockhampton; Ct, Cooktown. Inland the state of barometer is given in figures at Albury, Deniliquin, Wentworth, Menindie, Bourke, and Alice Springs. The barometer curve enables one at a glance to trace the depressions, beginning with Western Australia, and passing along eastwards; northerly winds preceding them, and southerly following.

9 A.M. OBSERVATIONS.

Western Australia.—Generally cloudy and gloomy, principally in S.W. parts, with light to fresh E. to N. winds, fallen barometers, and smooth to moderate sea. Rainfall: 0·22 inch at Geraldton. Extremes of barometers and temperature: Esperance Bay, 30·33 and 44°; Carnarvon, 30·01 and 77°.

South Australia.—Generally overcast and unsettled south of Beltana, and in places showery, with light to fresh W. to S.W. winds, risen barometers, and moderate to rough sea. Rains have fallen generally south of Port Augusta, in quantities of from 0·10 to 0·58 inch; Lobethal, 0·70; Guneracha, 0·50; Lawra, 0·43; Hallet, 0·37; Penola, 0·31; Robe, 0·25; Streaky Bay, 0·22; Adelaide, 0·16; and Cape Borda, 0·18 inch. Extremes of barometers and temperature: Alice Springs, 30·36; Port Darwin, 29·89 and 79°; M'Donnell Bay, 51°.

Victoria.—Generally showery, overcast, and gloomy, with fresh to strong W. to S.W. winds, fallen barometers, and moderate to rough sea; squally and misty on the coast. Rainfall: Wilson's Promontory, 0·77; Cape Otway, 0·47; Cape Schanck, 0·29; Portland, 0·26; Hamilton, 0·10; and Ballarat, 0·04 inches. Extremes of barometers and temperature: Hamilton, 30·06; Lakes Entrance, 29·80; Horsham, [illegible]°; and Omeo, 42°.

Tasmania.—Generally fine but unsettled, with light S. to W. winds and calms, fallen barometers, and moderate sea. Foggy at Low Heads, and frosty at Hobart. Rainfall: Low Heads, 0·31; and Circular Heads, 0·28 inch. Extremes of barometers and temperature: Circular Heads, 29·78; Hobart, 29·75; Falmouth, 49°; and Low Heads, 43°.

New Zealand.—Showery from S.E. in extreme north and south parts, calm and gloomy over the centre. Barometers: In south, 29·6; to northward, 29·5.

New South Wales.—Fine along the coast and in north parts, cloudy and threatening in south (west of the ranges), with showery weather at Molong and Young. Cool generally; frosty on the ranges; half an inch snow fallen at Kiandra, and still snowing. Winds generally W. and S.W., and rather fresh on and near the coast; the sea smooth to moderate. During the previous 24 hours light rains fell in coast districts south of Sydney, and along the western slopes of the ranges as far north as Bendemeer; the heaviest fall occurred at Gabo Island (0·37 inch). Extremes of barometers and temperature: Menindie, 30·18; Gabo Island, 29·82; Clarence, 59°; and Cooma, 25°. For further particulars see map.

Queensland.—Generally fine and cool, with clouds at places in north-east parts, light to fresh S.E. to W. winds, fallen barometers, and smooth to moderate sea; no rains reported. Extremes of barometers and temperature: Normanton, 30·07; Brisbane, 29·96; Cooktown, 83°; and Roma, 55°.

3 P.M. OBSERVATIONS.

New South Wales.—Menindie, S.W., 28, fine, temperature 62°; Wentworth, S.W., 14, dull, like rain, temperature 55°; Deniliquin, S.W., 28, fine but cloudy, temperature 61°; Eden, W.S.W., 14, fine, light east sea, temperature 61°. Moruya, N.E., fine, gloomy to S.W., moderate sea, temperature 62°; Cape St. George, S.W., 48, fine, moderate sea, temperature 68°; Sydney, W.S.W., 28, fine, cold and strong wind, smooth sea, temperature 59°; Newcastle, W., 14, fine, smooth sea, temperature 65°; Port Macquarie, S.S.W., 42, fine, moderate sea, temperature 63°; Clarence River, S.W., 14, fine, smooth sea, temperature 67°; Dubbo, S.W., 14, showery, temperature 58°; Goulburn, W., 14, fine, temperature 56°.

Queensland.—Cooktown, S.E., 8, fine and clear, temperature 81°; Townsville, S.E., 13, fine and clear, temperature 78°; Rockhampton, 13, fine and clear, temperature 70°; Roma, S., 13, fine and clear, temperature 64°; Cape Moreton, S.W., 30, fine and clear, temperature 67°; Brisbane, W., 18, fine and clear, temperature 70°.

HEIGHT OF RIVERS ABOVE SUMMER LEVEL.

Macintyre: At Mungindi, low. Barwon: At Mogil Mogil, low; at Walgett, 5 feet. Namoi: At Walgett, 2 feet. Culgoa: At Goodooga, 2 feet 9 inches. Darling: At Brewarrina, 4 feet; at Bourke, 10 feet 9 inches; at Louth, 11 feet 6 inches; at Tilpa, 21 feet 10 inches; at Wilcannia, 29 feet 10 inches; at Menindie, 27 feet; at Pooncarie, 23 feet 5 inches; at Wentworth, 13 feet 9 inches. Murrumbidgee: At Gundagai, 3 feet 6 inches; at Wagga, 3 feet 9 inches; at Balranald, 9 feet. Murray: At Albury, 2 feet; at Euston, 8 feet 10 inches.

ASTRONOMICAL MEMORANDA FOR MAY 13.

Sun rises at 6.45, sets at 5.8; Moon, 10.14 p.m., 11.28 a.m.; Mercury, 5.30 a.m., 4.27 p.m.; Venus, 9.47 a.m., 7.22 p.m.; Mars, 6.24 a.m., 4.52 p.m.; Jupiter, 3.57 p.m., 4.52 a.m.; Saturn, 11.1 a.m., 8.59 p.m. Full moon, 8th; new moon, 23rd.
High water at Fort Denison, May 13: —— a.m., 12.15 p.m.

H. A. LENEHAN,
Acting Government Astronomer.

Stations.	W	Mx	Mn	Rn.
Albany	f	53	34	0·13
Armidale	c	51	37	0·03
Balranald	g	81	57	0
Bathurst	c	51	37	0·07
Bendem'r.	c	56	38	0·05
Bodalla	b	56	37	0
Bourke	b	70	40	0
Buncarra	b	63	43	0
C'md'n H.	b	66	48	0
C. St. Geo.	b	65	43	0
Carcoar	u	48	34	0·20
Casino	b	74	41	0
Cassilis	b	53	42	0
Clarence	b	71	51	0
C'nd'b'lin	n	65	35	0
Cooma	n	56	26	0
Coonab'n.	b	63	37	0·02
Cowra	g	60	42	0·14
Cudg'llico	b	62	33	0
Deniliq'n.	b	67	36	0
Dubbo	b	58	31	0
Eden	b	60	47	0·07
Euston	u	62	40	0
Forbes	b	—	37	0
Glen Inn's	b	49	39	0
Goulburn	b	52	33	0
Grafton	b	86	46	0
Gulgong	b	50	32	0
Gunned'h	b	59	38	-
Hay	u	61	39	0
Inverell	n	49	30	0
Kiandra	n	40	20	0
Lismore	b	77	49	0
Maitland	b	66	46	0
Marsdens	c	56	44	0·11
Menindie	g	63	49	0
Molong	c	44	35	0·06
M'r'ng'r'll	c	61	30	0·04
Moree	h	72	39	0
Moruya	b	64	42	0
Moss Vale	b	49	37	0
Mt. Hope	g	59	42	0
M. Vict'ria	b	47	32	0
Mudgee	c	57	35	0·07
M'rr'mb'h	b	56	37	0·07
M'rr'r'ndi	b	55	43	0
Mus'lbr'k	b	63	33	0
Narrabri	f	64	35	0
Newcastle	b	65	44	0
Orange	g	47	34	0·14
[illegible]ton	b	52	42	0
P. M'q'rie	b	64	41	0
P. St'ph'n	b	61	44	0
Q'nbeyan	n	51	34	0
Quirindi	n	62	41	0
Singleton	b	52	47	0
SYDNEY	b	59	47	-
Tamw'rth	b	58	40	0
Taralga	b	58	35	0
Taree	b	67	46	0
T'nt'rfield	b	58	36	0
Wagga	g	60	30	0
Walcha	g	50	32	0
W'lgett	b	—	42	0
Warrah	n	60	—	0
W'ntw'rth	c	62	47	0·05
W'll'ng'ng	b	63	52	0
Young	c	60	37	0·02

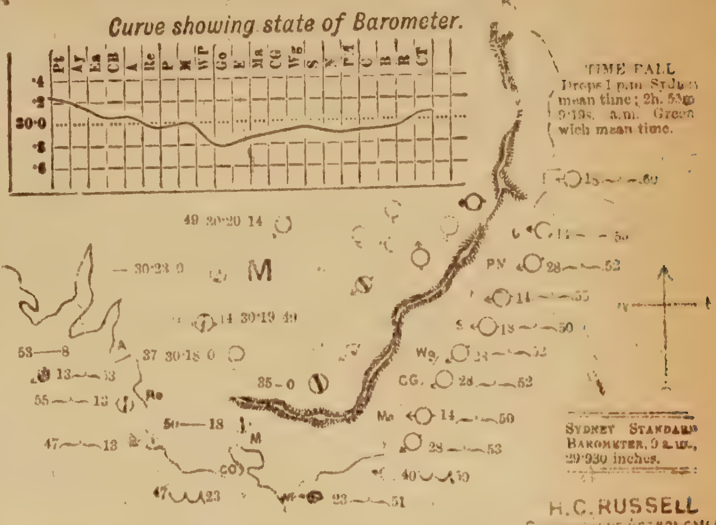
SYDNEY OBSERVATORY.

LATITUDE 33° 51' 41" S. LONGITUDE 10h. 4m. 50·4s. E.
MAGNETIC VARIATION, 9° 35' 37" E.

Average Annual Rainfall for 2[illegible] years ... 49·4[illegible]
Average for 29 years from Jan. 1 to April 30 18·7 ... 20·374
Total Rainfall from Jan. 1, to May 13 1[illegible]·7 ... 20·921
Barometers corrected to 32° Fah. and Mean Sea Level

Fine, wind N. · Cloudy, wind E. · T. storm, wind S. · Rain, wind W.
If it is CALM, the symbol used without the arrow.
Smooth sea. · Heavy sea. · Very heavy sea.

TIME FALL
Drops 1 p.m. Sydney mean time; 2h. 55m. 9·19s. a.m. Greenwich mean time.



SYDNEY STANDARD BAROMETER, 9 a.m., 29·930 inches.

H. C. RUSSELL
GOVERNMENT ASTRONOMER.

NOTES EXPLANATORY OF MAP.

In the list of stations the column headed W. gives the state of the weather at 9 a.m., b standing for blue sky; c. detached clouds; d. drizzling rain; f. fog; g. gloomy; h. hazy; m. misty; n. frosty; o. overcast. p. passing showers; r. rain; s. snow; t. thunder, u. threatening. The next column, Mx gives the maximum temperature for previous 24 hours. Mn the corresponding minimum temperature; r'n. the rain for the previous 24 hours. The symbols used in the map are explained on the margin. At each coast station the wind symbol is placed like a vane pointing to the direction from which the wind is coming. A clear circle with it means fine weather, a circle with bar, cloudy **weather; and a black spot, raining. Next to this symbol are placed figures denoting** the number of miles the wind is moving per hour; next, a symbol showing the state of the sea; and, lastly, figures denoting the shade temperature at 9 a.m. The barometer curve shows the state of barometers round the coast from Perth to Cooktown.—Pt. Perth; Ay. Albany; Ea. Eucla; CB. Cape Borda; A. Adelaide; Re. Robe; P. Portland; M. Melbourne; W P. Wilson's Promontory; Go. Gabo; E. Eden; Ma. Moruya; CG. Jervis Bay; Wg. Wollongong; S. Sydney; N. Newcastle; PM. Port Macquarie; C. Clarence River; B. Brisbane; R. Rockhampton; Ct. Cooktown. Inland the state of barometer is given in figures at Albury, Deniliquin, Wentworth, Menindie, Bourke, and Alice **Springs. The barometer curve enables one at a glance to trace the depressions, beginning with Western Australia, and passing along eastwards; northerly winds preceding them, and southerly following.**

9 A.M. OBSERVATIONS.

Western Australia.—Generally fine, but gloomy at Geraldton, and showery at Albany, with light south to east winds along west coast, and westerly winds on the south coast; risen barometers and smooth sea. Rainfall: Esperance Bay, 0·05; and Albany, 0·04 inch. Extremes of barometers and temperature: Perth, 30·25 and 55°; Cossack, 30·05; and Carnarvon, 77°.

South Australia.—Scattered clouds north of Hergott; south of that place densely overcast and unsettled throughout, with misty rains falling at places; light variable, chiefly north-west winds and calms, fallen barometers, and moderate sea. Rains have fallen south of Orroroo, heaviest at Streaky Bay, 0·31 inch; Eliston, 0·16; Yongala, 0·12; Maitland, 0·11; and other stations smaller quantities. Extremes of barometers and temperature: Alice Springs, 30·27; Port Darwin, 29·96 and 77°; M'Donnell Bay, 49°.

Victoria.—Generally cloudy, cool, and unsettled, with passing showers of light rain; fresh W. to N.W. winds, risen barometers, and the sea moderate to rather rough. Squally on the coast. Rainfall: Wilson's Promontory, 0·25; Cape Schanck, 0·16; Portland, 0·14; Hamilton, 0·10; Cape Otway, 0·08; Melbourne, 0·05, and other stations smaller quantities. Extremes of barometers and temperature: Echuca, 30·11; Lakes' Entrance, 29·87; Horsham, 57°; and Omeo, 37°.

Tasmania.—Generally fine, but unsettled, with dense fog at Low Heads, light S. to W. winds, steady barometers, and smooth sea; no rain reported. Extremes of barometers and temperature: Circular Heads, 29·85 and 49°; Hobart, 29·75 and 42°.

New Zealand.—Showery from S.E. in extreme north and south; gloomy, with N.W. wind over the centre. Barometers: In north, 29·6 to southward 29·4 inches.

New South Wales.—Fine, clear, and cool along the coast and in north; cloudy west of the ranges in south parts; frosty on the ranges, and one inch snow fallen at Kiandra. Winds generally fresh from N.W. to S.W., and the sea moderate, but rather rough off Gabo Island. During the previous 24 hours light rains fell along the western slopes of the ranges, and at a few places in south coast districts, but principally in the districts about Orange and Young. Extremes of barometers and temperature: Menindie, 30·23; Gabo Island, 29·78; Newcastle and Clarence, 55°; Cooma, 25°.

Queensland.—Generally fine and cold, with light to fresh S.E. to S.W. winds, steady barometers, and smooth to moderate sea; no rains reported, but reports incomplete. Extremes of barometers and temperature: Brisbane, 29·95; Roma, 30·05 and 5[illegible]°; and Cooktown, 82°.

3 P.M. OBSERVATIONS.

Victoria.—Portland, W., 23, showery, smooth sea, temperature 56°; Cape Otway, N.W., 34, passing showers, smooth sea, temperature 53°; Melbourne, N.W., 13, cloudy, temperature 5[illegible]°; Cape Schanck, W.N.W., 23, cloudy, misty and squally, moderate sea, temperature 61°; Wilson's Promontory, W., 23, passing showers, moderate sea, temperature 52°; Lakes' Entrance, W., 13, fine, but cloudy, temperature 57°.

New South Wales.—Wentworth, W., 14, overcast and dull, temperature 54°; Deniliquin, calm, dull, temperature 60°; Eden, S.W., 28, fine, light east sea, temperature 59°; Moruya, N.E., 14, fine, smooth sea, temperature 61°; Cape St. George, S., 42, fine, smooth sea, temperature 59°; Sydney, W.S.W., 15, fine, hazy and cold, moderate sea, temperature 59°; Newcastle, S.S.W., 14, fine, smooth sea, temperature 64°; Port Macquarie, S. 42, fine, smooth sea, temperature 63°; Clarence River, W., 42, fine, smooth sea, temperature 64°; Walgett, S.W., fine, temperature 64°; Dubbo, E., 14, fine, temperature 59°; Goulburn, W., 14, fine, temperature 55°.

Queensland.—Rockhampton, S.W., 13, cloudy and fine, temperature 67°; Roma, calm, fine, and clear, temperature 65°; Cape Moreton, W.S.W., 23, fine and clear, temperature 66°; Brisbane, W.S.W., 18, very dusty, temperature 67°.

HEIGHT OF RIVERS ABOVE SUMMER LEVEL.

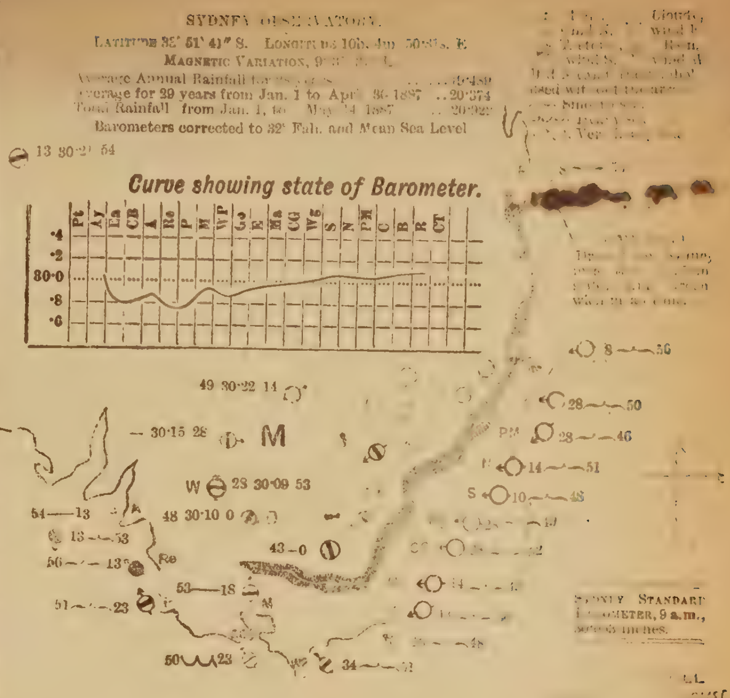
Macintyre: At Mungindi, low. Barwon: At Mogil Mogil, low; at Walcett, 4 feet 10 inches. Namoi: At Walgett, 2 feet. Culgoa: At Goodooga, 2 feet 8 inches. Darling: At Brewarrina, 3 feet 10 inches; at Bourke, 10 feet 3 inches; at Louth, 10 feet 8 inches; at Tilpa, 20 feet; at Wilcannia, 29 feet; at Menindie, 27 feet; at Pooncarie, 23 feet 6 inches; at Wentworth, 13 feet 8 inches. Murrumbidgee: At Gundagai, 3 feet 5 inches; at Wagga, 3 feet 4 inches; at Hay, 2 feet 9 inches; at Balranald, 8 feet 6 inches. Murray: At Albury, 2 feet 1 inch; at Euston, 8 feet 6 inches.

ASTRONOMICAL MEMORANDA FOR MAY 14.

Sun rises at 6.46, sets at 5.7; Moon, 11.38 p.m., 2.12 p.m.; Mercury, 5.34 a.m., 4.28 p.m.; Venus, 9.48 a.m., 7.22 p.m. Mars, 6.23 a.m., 4.51 p.m.; Jupiter, 3.52 p.m., 4.48 a.m.; Saturn, 10.58 a.m., 8.56 p.m. Full moon, 8th; new moon, 23rd.
High water at Fort Denison, May 14: 12.38 a.m., 1.1 p.m.

H. A. LENEHAN,
Acting Government Astronomer.

[illegible]			
[illegible]dale	n	48 30	0
[illegible]arrild	g	72 38	0
[illegible]hurst	c	51 37	0
[illegible]dem r	n	55 22	0
[illegible]dalla..	b	62 33	0
[illegible]urke ..	b	68 39	0
[illegible]ncarra	n	63 30	0
[illegible]md'n H.	b	65 41	0
St. Geo	l	62 44	0
[illegible]arcoar..	g	47 34	0
Casino ..	b	70 36	0
Cassilis ..	n	52 33	0
Clarence..	b	66 47	0
C'nd'b'lin	u	60 32	0
Cooma ..	n	59 19	0
Coonab'n.	n	59 2[illegible]	0
Cowra	u	61 41	0
Cudg'llico	u	63 49	0
Deniliq'n.	g	69 38	0
Dubbo .	b	59 40	0
Eden	b	59 44	
Eus'on ..	g	66 42	0
Forbes ..	c	— 36	0
Glen Inn's	b	49 23	0
Goulburn	b	57 37	0



Grafton..	b	72 39	0
Gulgong ..	c	52 28	0
Gunned'h	b	58 34	0
Hay ..	c	54 45	0
Inverell..	n	54 26	0
Kiandra..	n	45 20	0
Lismore .	b	73 42	0
Maitland.	b	60 43	0
Marsdens.	c	50 48	0
Menindie.	c	60 52	0
Molong ..	g	44 35	0
M'ng'r'll	u	60 45	0
Moree .	b	50 35	0
Moruya ..	b	66 41	0
Moss Vale	o	49 40	0
Mt. Hope	g	[illegible]	0
[illegible]	n	[illegible]	0

Mudgee ..	n	59 23	0
M'rr'mb'h		56 42	0
M'rr'r'udi	n	55 35	0
Mus'lbr'k		59 30	0
Narrabri		61 31	0
Newcastle		65 40	0
Orange ..		46 38	0
[illegible]ton ..		58 28	0
P M'q'rie		68 38	0
P St'ph'n		60 37	0
Q'nbeyan	n	50 30	0
Quirindi		64 35	0
Singleton		60 46	0
SYDNEY ..		59 43	0
Tamw'rth		— —	0
Taralga ..		63 31	-
Taree ..		72 39	0
T'nt'rfield		56 27	0
Wagga ..		55 34	0
Walcha ..		47 15	0
Walgett..		— 35	0
Warrah ..		64 —	0
W'ntw'rth		59 48	0
W'll'ng'ng		67 49	0
Young ..		65 41	0

NOTES EXPLANATORY OF MAP.

In the list of stations [illegible] b, blue sky [illegible] c, cloudy [illegible] g, gloomy [illegible] n, misty [illegible] o, overcast; p, passing showers; r, rain; s, snow; t, thunder [illegible] [illegible] the maximum temperature [illegible] [illegible] the [illegible] wind-symbols [illegible] the direction from which the wind is coming. A clear circle with it means fine weather; a circle with bar, cloudy weather; and a black spot, raining. Next to this symbol are placed figures denoting the number of miles the wind is moving per hour; next, a symbol showing the state of the sea; and, lastly, figures denoting the shade temperature at [illegible] a.m. The barometer curve shows the state of barometers round the coast from Perth to Cooktown: Pt, Perth, Ay, Albany; Ea, Eucla; CB, Cape Borda; A, Adelaide; Re, Robe; P, Portland; M, Melbourne; WP, Wilson's Promontory; Go, Gabo; E, Eden; Ma, Moruya; CG Jervis Bay, Wg, Wollongong; S, Sydney; N, Newcastle; PM, Port Macquarie; C, Clarence River; B, Brisbane; R, Rockhampton; Ct, Cooktown. Inland the state of barometer is given in figures at Albury, Deniliquin, Wentworth, Menindie, Bourke, and Alice Springs. The barometer curve enables one at a glance to trace the depressions, beginning with Western Australia, and passing along eastwards; northerly winds preceding them, and southerly following.

The rainfall on Sundays or holidays, when this map is not published, are in all cases included in the quantities shown by the next following map.

9 A.M. OBSERVATIONS.

Western Australia.—Generally fine and clear, except at Albany, where it is cloudy and gloomy and Esperance Bay, where it is overcast and showery. Barometers low to north and rising to south. Extremes of barometers and temperature:—Perth, 30·31; Cossack, 29·9[illegible]; Ashburton and Carnarvon, 74°; and Perth, 48°.

South Australia.—Generally showery, overcast and gloomy along the coast; unsettled inland and in northern territory; light north to west winds, fallen barometers, and moderate to rough sea. Rainfall: Robe, 1·35; Cape Borda, 0·65; Adelaide, 0·43; M'Donnell and Fowler Bays, 0·28; Port Lincoln, 0·27; Streaky Bay, 0·16; Eucla, 0·0[illegible]; and Wallaroo, 0·02 inches. Extremes of barometers and temperature:—Alice Springs, 30·21; Robe, 29·75; Port Darwin, 78°; and M'Donnell Bay, 51°.

Victoria.—Generally overcast, gloomy, and unsettled, with showers at Hamilton; fresh to strong northerly winds, fallen barometers, and moderate sea; squally, misty, and the sea rising at places on the coast. Rainfall: Wilson's Promontory, 0·40; Cape Otway, 0·1[illegible]; Hamilton, 0·15; Portland, 0·5; and Horsham, 0·01 inches. Extremes of barometers and temperature: Ballarat, 29·97; Portland, 29·79; Horsham, 57°; and Omeo, 40.

Tasmania.—Generally unsettled, with misty rain at Southport, and fog at Low Heads, light W. to S. winds and calms; risen barometers, an moderate sea. Rainfall: Southport, 0·4[illegible]; Circular Heads, 0·06; and Low Heads, 0·02 inches. Extremes of barometers and temperature: Southport, 29·89 and 44°; Circular Heads, 29·83 and 47°.

New Zealand.—Passing showers from N.W. in extreme north; fine, with N.W. wind, over centre; gloomy, with S.E. wind in south. Barometers: In north, 29·3; over centre, 29·2; and in south, 29·4.

New South Wales.—Fine along the coast and in north; overcast and gloomy in west and south parts; cold generally, and on the ranges heavy frosts. Rainfall during the previous 24 hours is reported from only one station, viz., Balranald, where 0·5 inch fell. Winds were light from N.W. to S.W., and the sea smooth. Extra stations not inserted yesterday: Hill End, 0·23 inch rain fallen on 15th; Gabo Island, 0·66 inch rain fallen on 13th. Extremes of barometers and temperature: Walgett, 30·22; Gabo Island, 29·87; Wentworth, 55°; and [illegible] 8[illegible]. [illegible] further particulars see map.

Queensland.—Fine and cool, with clouds at places in S. and W. parts, risen barometers, and smooth sea. Winds [illegible] westerly in S.E. parts, south-easterly and calms to northward. Reports incomplete. Extremes of barometers and temperature: Roma, 30·12 and 52°; Townsville, 30·06 and 66°.

3 P.M. OBSERVATIONS.

Victoria.—Portland, N., 28, cloudy, smooth sea, temperature 57°; Cape Otway, 23, light rain, slight sea, temperature 56°; Wilson's Promontory, W., 13, overcast and gloomy, slight sea, temperature 56°.

New South Wales.—Menindie, S.W., fine and clear, temperature 61°; Wentworth, N.W., 14, dull and cloudy, temperature 54°; Deniliquin, calm, cloudy, temperature 6[illegible]; Eden [illegible]W., 11, fine, moderate sea, temperature 61°; Moruya, N.E., 14, fine, smooth sea, temperature 6[illegible]; Cape St. George, S., [illegible], fine, smooth sea, temperature 58°; Sydney, W., [illegible], fine, smooth sea; Newcastle, W., 14, fine, smooth sea, temperature 61°; Port Macquarie, N.E., 14, fine, smooth sea, temperature 63°; Clarence River, N.W., 11, fine, smooth sea, temperature 65; Dubbo, S., 14, fine; Goulburn, W.N.W., 14, temperature 62°.

HEIGHT OF RIVERS ABOVE SUMMER LEVEL.

Macintyre: At Mungindi, low. Barwon: At Mogil Mogil, low; at Walgett, 4 feet 8 inches. Namoi: At Walgett, 2 feet. Culgoa: At Goodooga, 2 feet 7 inches. Darling: At Brewarrina, 3 feet 6 inches; at Bourke, 9 feet 8 inches; at Louth, 10 feet; at Tilpa, 19 feet; at Wilcannia, 28 feet 6 inches; at Menindie, 27 feet; at Pooncarie, 23 feet 6 inches; at Wentworth, 13 feet 7 inches. Murrumbidgee: At Gundagai, 3 feet 6 inches; at Wagga, 3 feet 2 inches; at Hay, 2 feet 6 inches; at Balranald, 8 feet 6 inches. Murray: At Albury, 2 feet; at Euston, 8 feet 3 inches.

ASTRONOMICAL MEMORANDA FOR MAY 16.

Sun rises at 6,47, sets at 5.5; Moon, 12.32 a.m., 1.26 p.m.; Mercury, 5.46 a.m., 4.32 p.m.; Venus, 9.50 a.m., 7.25 p.m.; Mars, 6.22 a.m., 4.47 p.m.; Jupiter, 3.43 p.m., 4.39 a.m.; Saturn, 10.51 a.m., 8.49 p.m. Full moon, 8th; new moon, 23rd. High water at Fort Denison, May 16: 2.23 a.m., 2.53 p.m.

H. A. LENEHAN,
Acting Government Astronomer.

Stations.	Wt	Mx	Mn	Rn.
Albury ..	r	54	43	0·53
Armidale	g	54	30	0
Balranald	f	72	23	0·16
Bathurst	c	58	26	0
Bendem'r	g	56	37	0
B[illegible]lla ..	b	56	32	0
Bourke ..	c	71	50	0
Bundarra	u	64	22	0
C'md'n H.	g	65	49	0
C. St. Geo.	g	63	45	0
Carcoar ..	g	49	31	0
Casino ..	u	70	46	0
Cassilis ..	o	54	35	0
Clarence .	c	67	50	0
C'nd'b'lin	u	66	34	0
Cooma ..	n	64	26	0
Coonab'n.	g	62	37	0
Cowra ..	c	62	35	0
Cudg'llico	g	63	46	0
Deniliq'n.	g	63	47	0·61
Dubbo ..	b	65	38	0
Eden	b	61	44	0
Euston ..	f	71	36	0
Forbes ..	g	—	37	0
Glen Inn's	g	64	26	0
Goulburn	b	59	27	0
13——59 EUCLA				
Grafton ..	u	76	45	0
Gulgong ..	u	52	28	0
Gunned'h	c	56	34	0
Hay ..	g	63	45	0·58
Inverell ..	o	56	41	0
Kiandra ..	-	—	—	-
Lismore ..	o	65	50	0
Maitland ..	c	84	65	0
Marsdens.	u	64	46	0
Menindie.	b	53	50	0·10
Molong ..	u	42	29	0
M'r'ng'r'll	c	61	39	0
Moree ..	u	69	47	0
Moruya ..	b	64	41	0
Moss Vale	n	51	35	0
Mt. Hope	u	70	48	0
M. Vict'ria	c	50	29	0
Mudgee ..	g	33	24	0
M rr'mb'h	c	55	42	0
M'rr'r'udi	b	55	32	0
Mus'lbr'k	g	60	37	0
Narrabri	c	64	36	0
Newcastle	g	64	45	0
Orange ..	n	50	36	0
[illegible]ton .	n	59	38	0
P. M'q'rie	g	61	47	0
P. St'ph'n	g	59	36	0
[illegible]nbeyan	c	54	32	0
Quirindi	u	64	33	0
Singleton	b	58	43	0
Sydney ..	g	61	48	0
Tamw'rth	b	57	32	0
Taralga ..	g	63	30	0
Taree ..	g	63	48	0
T'nt'rfield	c	64	41	0
Wagga ..	g	62	35	0·09
Walcha ..	g	51	32	0
Walgett ..	g	—	46	0
Warrah ..	g	57	—	0
W'ntw'rth	b	63	45	0·45
W'll'ng'ng	b	68	49	0
Young ..	g	74	32	0

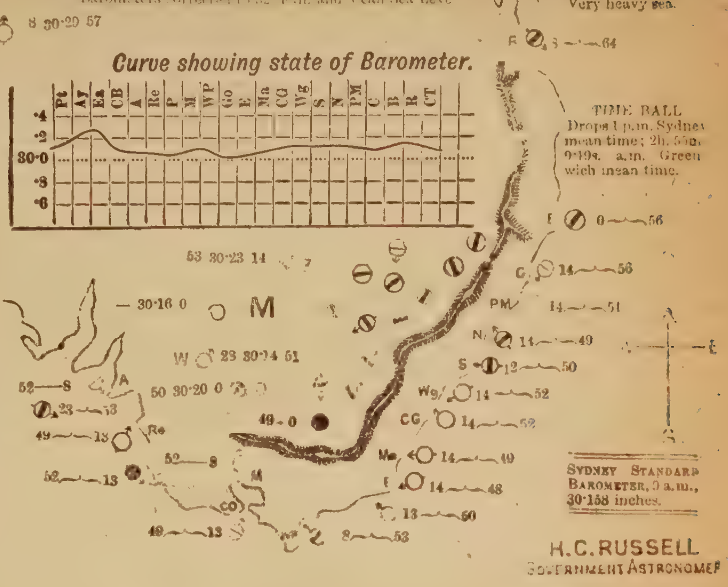
SYDNEY OBSERVATORY.

Latitude 33° 51′ 41″ S. Longitude 10h. 4m. 50·31s. E.

Magnetic Variation, 9° 35′ 37″ E.

Average Annual Rainfall for 28 years .... 49·489
Average for 29 years from Jan. 1 to April 30 1887 .. 20·374
Total Rainfall from Jan. 1, to May 16 1887 .... 20·922

Barometers corrected to 32° Fah. and Mean Sea Level



NOTES EXPLANATORY OF MAP.

In the list of stations the column headed W.T. gives the state of the weather at 9 a.m., b standing for blue sky; c, detached clouds; d, drizzling rain; f, fog; g, gloomy; h, hazy; m, misty; n, frosty; o, overcast; p, passing showers; r, rain; s, snow; t, thunder; u, threatening. The next column, M'x gives the maximum temperature for previous 24 hours. M'n the corresponding minimum temperature; Rn, the rain for the previous 24 hours. The symbols used in the map are explained on the margin. At each coast station the wind symbol is placed like a vane pointing to the direction from which the wind is coming. A clear circle with it means fine weather; a circle with bar, cloudy weather; and a black spot, raining. Next to this symbol are placed figures denoting the number of miles the wind is moving per hour; next, a symbol showing the state of the sea; and, lastly, figures denoting the shade temperature at 9 a.m. The barometer curve shows the state of barometers round the coast from Perth to Cooktown: Pt, Perth; Ay, Albany; Ea, Eucla; Cb, Cape Borda; A, Adelaide; Re, Robe; P, Portland; M, Melbourne; W P, Wilson's Promontory; Go, Gabo; E, Eden; Ma, Moruya; CG, Jervis Bay; Wg, Wollongong; S, Sydney; N, Newcastle; PM, Port Macquarie; C, Clarence River; B, Brisbane; R, Rockhampton; Ct, Cooktown. Inland the state of barometer is given in figures at Albury, Deniliquin, Wentworth, Menindie, Bourke, and Alice Springs. The barometer curve enables one at a glance to trace the depressions, beginning with Western Australia, and passing along eastwards; northerly winds preceding them, and southerly following.

The rainfall on Sundays or holidays, when this map is not published, are in all cases included in the quantities shown by the next following map.

9 A.M. OBSERVATIONS.

Western Australia.—Generally fine, with light N. to E. winds and calms, fallen barometers, and smooth to moderate sea. Rainfall: Eucla 0·42, and Esperance Bay 0·01 inches. Extremes of barometers and temperature:—Esperance Bay, 30·33 and 40°; Carnarvon, 30·00 and 75°.

South Australia.—More or less clouded throughout, with light rains on parts of the ranges, light variable winds and calms, risen barometers, and smooth sea. Rains have fallen south of Beltana and over north parts of the Northern Territory, heaviest at Victor Harbour, 1·04 inch; Naracoote, 0·95, Clarendon, 0·85; Snowtown, 0·82; and at other stations, from 0·10 to 0 50 inches. Extremes of barometers and temperature:—Alice Springs, 30·29; Port Darwin, 30·02 and 72°; M'Donnell Bay, 48°.

Victoria.—Generally overcast, gloomy, and unsettled, with passing showers at Portland and Cape Schanck; light northerly winds, risen barometers, and smooth sea; foggy on the ranges. Rainfall: Omeo, 0·15; Echuca and Wilson's Promontory, 0·08; Portland, 0·05; and Hamilton, 0·06 inches. Extremes of barometers and temperature: Hamilton, 30·18; Lakes Entrance, 30·04; Horsham, 58°; and Omeo, 36°.

Tasmania.—Foggy at Low Heads, with light S. winds. Barometer, 30·08, and temperature 46°; Falmouth, fine, with light W. winds, barometer 29·98, and temperature 46°. Reports incomplete.

New Zealand.—Showery from S.E. over the centre, and 0·53 inch fallen; fine in north and south parts, with S.W. winds. Barometers: In north, 29·8; to southwards, 29·7.

New South Wales.—Fine in South coast districts and in extreme S.W. parts; over the remainder of the colony overcast, gloomy, and unsettled weather prevailed, with light rains falling at Albury and Wilcannia. During the previous 48 hours light rains fell along the Lower Darling, Murray, and Murrumbidgee rivers, heaviest (0·61 inch) at Deniliquin. Winds generally were light, variable, and calms at places; in west parts north winds, along the coast westerly, with smooth sea. Extra station: Pooncarie, 0·10 inch rain fallen, now fine, frosty weather. Extremes of barometers and temperature: Walgett, 30·23; Gabo Island, 30·01; Clarence, 55°; and Cooma, 28°. For further particulars see map.

Queensland.—Raining along the western slopes of the ranges and on the southern shores of the Gulf of Carpentaria; cloudy, gloomy, and unsettled over the remainder of the colony, with light to fresh S.E. to E. winds, slightly risen barometers, and the sea smooth, but rather rough at Cooktown. Rainfall: Normanton [illegible], Hughendon, 0·62; Blackall, 0·44; Burketown, 0·25; Roma, 0·10; and Brisbane, 0·01 inches. Extremes of barometer and temperature: Roma, 30·16 and 55°; Cooktown, 30·05 and 83°.

3 P.M. OBSERVATIONS.

Victoria.—Portland, S.S.E., 23, passing showers, smooth sea, temperature 54°; Cape Otway, S., 18, overcast and showery, slight sea, temperature 54°; Melbourne, S.S.W., 13, fine but cloudy, temperature 57°; Cape Schanck, W.N.W., 18, overcast, with light rain, moderate sea, temperature 57°; Wilson's Promontory, W., 8, fine, but cloudy, smooth sea, temperature 56°: Lakes Entrance, W., 13, fine, but cloudy, temperature 60°.

New South Wales.—Menindie, calm, fine, temperature 62°; Wentworth, S., 14, fine, temperature 50°; Deniliquin, N., 14, dull, temperature 60°; Eden, N.E., 14, fine, smooth sea, temperature 59°; Moruya, N.E., 14, dull and cloudy, smooth sea, temperature 66°; Cape St. George, N.W., 14, fine, smooth sea, temperature 57°; Sydney, W., 7, overcast and dull, smooth sea, temperature 56°; Newcastle, N.W., 14, fine, smooth sea, temperature 62°; Port Macquarie, W.S.W., 14, overcast and dull, smooth sea, temperature 61°; Clarence River, W., 14, dull, smooth sea, temperature 64°; Walgett, calm, cloudy, temperature 6[illegible]°; Dubbo, calm, fine, temperature 59°; Goulburn, calm, dull, temperature 52°.

Queensland.—Townsville, calm, misty rain, temperature 75°; Rockhampton, S.E., 8, cloudy and like rain, temperature 67°; Roma, N., 8, cloudy, temperature 57°; Cape Moreton, S.W., 18, overcast, temperature 60°; Brisbane, W.S.W., 8, overcast and gloomy, temperature 59°.

HEIGHT OF RIVERS ABOVE SUMMER LEVEL.

Macintyre: At Mungindi, low. Barwon: At Mogil Mogil, low; at Walgett, 4 feet 6 inches. Namoi: At Walgett, 2 feet. Culgoa: At Goodooga, 2 feet 5 inches. Darling: At Brewarrina, 3 feet 4 inches; at Bourke, 8 feet 7 inches; at Louth, 8 feet 10 inches; at Tilpa, 16 feet; at Wilcannia, 26 feet 10 inches; at Menindie, 27 feet; at Pooncarie, 23 feet 7 inches; at Wentworth 1[illegible] feet [illegible] inches. Murrumbidgee: At Gundagai, 3 feet 6 inches; at Wagga, 3 feet; at Hay, 3 feet 2 inches; at Balranald, 8 feet. Murray: At Albury, 2 feet; at Euston, 7 feet 8 inches.

ASTRONOMICAL MEMORANDA FOR MAY 17.

Sun rises at 6.48, sets at 5.4; Moon, 1.25 a.m., 1.59 p.m.; Mercury, 5.52 a.m., 4.34 p.m.; Venus, 9.51 a.m., 7.26 p.m.; Mars, 6.22 a.m., 4.45 p.m.; Jupiter, 3.39 p.m., 4.35 a.m.; Saturn, 10.47 a.m., 8.45 p.m. Full moon, 8th; new moon, 23rd.
High water at Fort Denison, May 17: 3.25 a.m., 3.56 p.m.

H. A. LENEHAN,
Acting Government Astronomer.

Stations.	W	Mx	Mn	Rn
Albury ..	c	54	47	0·25
Armidale	b	52	41	0
Balranald	b	73	35	0
Bathurst	c	57	31	0·03
Bendem'r	b	55	33	0
Bodalla ..	–	—	—	–
Bourke ..	r	68	45	0
Bunc'arra	c	53	45	0
C'md'n H.	b	63	44	0
C. St. Geo.	r	68	48	0·26
Carcoar ..	r	50	35	0·10
Casino ..	b	66	39	0
Cassilis ..	b	54	41	0
Clarence .	b	65	54	0
C'nd'b'lin	u	65	35	0
Cooma ..	c	61	37	0·03
Coonab'n.	n	61	32	0
Cowra ..	g	59	41	0·02
Cudg'llico	g	74	43	0·10
Deniliq'n.	b	70	39	0
Dubbo ..	b	64	43	0
Eden	b	61	44	0·03
Euston ..	b	74	31	0
Forbes ..	u	—	38	0·03
Glen Inn's	b	49	39	0
Goulburn	g	55	30	0
0—61 EUCLA				
Grafton ..	b	71	41	0
Gulgong .	u	52	30	0
Gunned'h	b	56	37	0
Hay ..	f	64	35	0
Inverell ..	u	55	43	0
Kiandra ..	c	42	28	0·77
Lismore .	f	63	52	0
Maitland .	g	62	50	0
Marsdens.	c	59	52	0·03
Menindie.	u	66	49	0·02
Molong ..	c	46	36	0
M'r'ng'r'll	b	60	41	0
Moree ..	r	60	49	0·31
Moruya ..	b	66	46	0
Moss Vale	u	52	38	0
Mt. Hope	b	62	47	0·10
M. Vict'ria	c	54	35	0

SYDNEY OBSERVATORY.

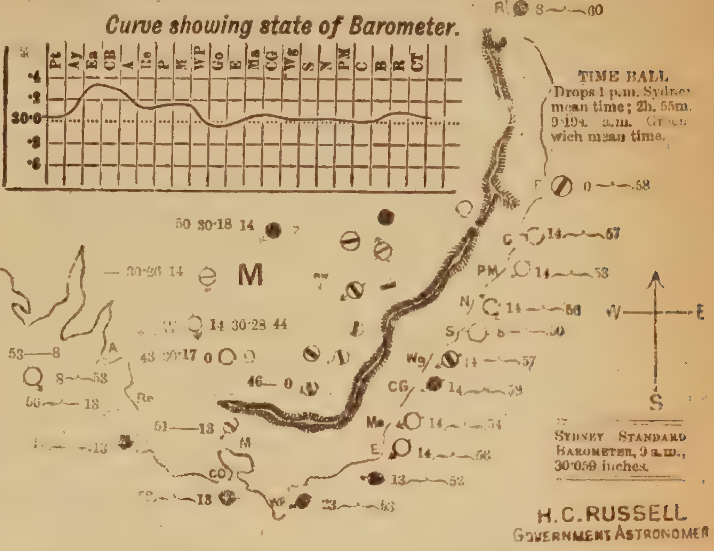
LATITUDE 33° 51' 41" S. LONGITUDE 10h. 4m. 50·81s. E.

MAGNETIC VARIATION, 9° 35' 37" E.

Average Annual Rainfall for 28 years..............49·489
Average for 29 years from Jan. 1 to April 30 1887 ..20·374
Total Rainfall from Jan. 1, to May 17 1887 ...... 20·930

Barometers corrected to 32° Fah. and Mean Sea Level

Fine, cloudy, wind N. wind E. T. storm, Rain, wind S. wind W.
If it is CALM, the symbol used without the arrow
Smooth sea.
Heavy sea.
Very heavy sea.



H. C. RUSSELL
GOVERNMENT ASTRONOMER

Mudgee ..	g	57	31	0
M rr'mb'h	f	51	39	0
M'r'r'udi	b	52	40	0
Mus'lbr'k	b	64	34	0
Narrabri	g	65	44	0
Newcastle	b	68	46	0
Orange ..	g	51	36	0·19
...ton ..	c	60	33	0
P. M'q'rie	b	63	45	0
P. St'ph'n	b	59	49	0
Q'nbeyan	g	55	34	0
Quirindi	n	55	37	0
Singleton	b	52	46	0
SYDNEY ..	b	57	47	0·01
Tamw'rth	–	—	—	–
Taralga ..	g	59	30	0
Taree ..	b	62	46	0
T'nt'rfield	b	67	46	0
Wagga ..	f	57	35	0·03
Walcha ..	n	50	26	0
Walgett ..	g	—	42	0
Warrah ..	b	56	—	0
W'ntw'rth	b	69	41	0
W'll'ng'ng	c	67	53	0
......	c	66	40	0

NOTES EXPLANATORY OF MAP.

In the list of stations the column headed W.T. gives the state of the weather at 9 a.m., b stands for blue sky; c, detached clouds; d, drizzling rain; f, fog; g, gloomy; h, hazy; m, misty; n, frosty; o, overcast; p, passing showers; r, rain; s, snow; t, thunder; u, threatening. The next column, Mx gives the maximum temperature for previous 24 hours. Mn the corresponding minimum temperature. Rn, the rain for the previous 24 hours. The symbols used in the map are explained on the margin. At each coast station the wind symbol is placed like a vane pointing to the direction from which the wind is coming. A clear circle with it means fine weather; a circle with bar, cloudy weather; and a black spot, raining. Next to this symbol are placed figures denoting the number of miles the wind is moving per hour; next, a symbol showing the state of the sea; and, lastly, figures denoting the shade temperature at 9 a.m. The barometer curve shows the state of barometers round the coast from Perth to Cooktown: Pt, Perth; Ay, Albany; Ea, Eucla; CB, Cape Borda; A, Adelaide; Re, Robe; P, Portland; M, Melbourne; WP, Wilson's Promontory; Go, Gabo; E, Eden; Mu, Moruya; CG Jervis Bay; Wg, Wollongong; S, Sydney; N, Newcastle; PM, Port Macquarie; C, Clarence River; B, Brisbane; R, Rockhampton; Ct, Cooktown. Inland the state of barometer is given in figures at Albury, Deniliquin, Wentworth, Menindie, Bourke, and Alice Springs. The barometer curve enables one at a glance to trace the depressions, beginning with Western Australia, and passing along eastwards; northerly winds preceding them, and southerly following.

The rainfall on Sundays or holidays, when this map is not published, is in all cases included in the quantities shown by the next following map.

9 A.M. OBSERVATIONS.

Western Australia.—Showery at Geraldton, threatening at Perth and Carnarvon; in north and south parts fine; winds light from N.E. to N.W., and the sea smooth to moderate. Rainfall: Geraldton, 0·49 inch. Extremes of barometers and temperature: Esperance Bay, 30·26 and 43°; Geraldton, 29·96; and Carnarvon, 75°.

South Australia.—Generally fine and pleasant, with scattered clouds, and on the ranges overcast. Light rains have fallen south of Hawker, but partial; Port Elliot, 0·49; Willunga, 0·36; Beachport, 0·34; and other stations from 0·01 to 0·15 inches. Winds were light southerly, with calms at places, and the sea smooth. No reports from Northern Territory. Extremes of barometers and temperature:—Eucla, 30·34 and 61°; M'Donnell Bay, 30·26 and 5..°.

Victoria.—Generally overcast and gloomy, with passing showers of light rains; light to fresh westerly winds, risen barometers, and smooth sea. Rainfall: Portland, 0·29; Melbourne, 0·43; Cape Schanck, 0·10; Hamilton, 0·07; Cape Otway, 0·06; and Omeo, 0·03 inches. Extremes of barometers and temperature: Hamilton, 30·19; Lakes Entrance, 30·06; Horsham, 59°; and Omeo, 45°.

Tasmania.—Fine, with light south wind, and calm on the East Coast; the sea moderate. Reports incomplete. Extremes of barometers and temperature: Southport, 30·14 and 42°; Falmouth, 30·06 and 51°.

New Zealand.—Passing showers from N.W. in extreme south; fine, with N.W. to S.W. winds to northward. Barometers: In north, 29·9; over centre, 29·8; and in south, 29·7 inches.

New South Wales.—Fine in N.E. parts, cloudy and unsettled over the remainder of the colony, with fog at places in S.W. and light rains falling at scattered places in S.E. and N.W. parts. During the previous 24 hours light rains fell partially over S.E. and central parts, principally in the districts of the Upper Lachlan, but heaviest (0·77 inch) at Kiandra. Winds were light westerly, with calms inland, and the sea smooth. Extra stations: Hill End, 0·08; and Gabo Island, 0·01 inch rain fallen. Extremes of barometers and temperature: Wentworth, 30·28; Clarence, 30·04 and 57°; Cooma, 37°. For further particulars see map.

Queensland.—Generally cloudy, gloomy, and threatening, with rains falling at scattered places; light to fresh N.E. to S.E. winds and calms, fallen barometers, and the sea smooth, but rough at Cooktown. Rainfall: Hughenden, 0·96; Roma, 0·54; Burketown, 0·50; Townsville, 0·26; and along the coast generally, from 0·04 to 0·12 inches. Extremes of barometers and temperature: Rockhampton, 30·09; Brisbane, 30·01; Cooktown, 82°; and Roma, 57°.

3 P.M. OBSERVATIONS.

Victoria.—Portland, S.S.E., 23, overcast, smooth sea, temperature 56°; Cape Otway, S.W., 23, overcast, gloomy and misty, slight sea, temperature 54°; Melbourne, W.S.W., 8, overcast and gloomy, temperature 54°; Cape Schanck, S., 13, overcast and gloomy, slight sea, temperature 57°; Wilson's Promontory, S.W., 23, cloudy and squally, slight sea, temperature 55°; Lakes Entrance, W., 13, overcast and light rain, temperature 57°.

New South Wales.—Menindie, S.W., 28, fine, but cloudy and cold, temperature 61°; Wentworth, S., 14, fine, temperature 54°; Deniliquin, calm, fine, temperature 61°; Eden, S.W., 42, fine, light east sea, temperature 60°; Moruya, S., 42, fresh and cloudy, smooth sea, temperature 59°; Cape St. George, S., 42, showery, sea rising, temperature 58°; Sydney, S., 11, raining, moderate sea, temperature 54°; Newcastle, S., 11, fine, smooth sea, temperature 66°; Port Macquarie, S.W., 23, fine, smooth sea, temperature 66°; Clarence River, S.S.E., 14, fine, smooth sea, temperature 66°; Walgett, thunderstorms, with hail, from N.W. and N.E., temperature 60°; Dubbo, calm, showery, temperature 62°; Goulburn, W., 14, dull, temperature 52°.

Queensland.—Cooktown, S.E., 13, heavy, gloomy sky, temperature 75°; Townsville, calm, misty rain, temperature 68°; Cape Moreton, W.N.W., 8, fine, but cloudy, temperature 65°.

HEIGHT OF RIVERS ABOVE SUMMER LEVEL.

Macintyre: At Mungindi, low. Barwon: At Mogil Mogil, low; at Walgett, 4 feet 6 inches. Namoi: At Walgett, 2 feet. Culgoa: At Goodooga, 2 feet 4 inches. Darling: At Brewarrina, 3 feet 3 inches; at Bourke, 8 feet 2 inches; at Louth, 8 feet 3 inches; at Tilpa, 14 feet 6 inches; at Wilcannia, 24 feet 10 inches; at Menindie, 27 feet 1 inch; at Pooncarie, 23 feet 7 inches; at Wentworth, 13 feet 5 inches. Murrumbidgee: At Gundagai, 3 feet 6 inches; at Wagga, 3 feet 6 inches; at Hay, 3 feet 1 inch; at Balranald, 8 feet. Murray: At Albury, 2 feet; at Euston, 7 feet 4 inches.

ASTRONOMICAL MEMORANDA FOR MAY 18.

Sun rises at 6.48, sets at 5.4; Moon, 2.19 a.m., 2.31 p.m.; Mercury, 5.58 a.m., 4.36 p.m.; Venus, 9.52 a.m., 7.28 p.m.; Mars, 6.21 a.m., 4.44 p.m.; Jupiter, 3.34 p.m., 4.30 a.m.; Saturn, 10.44 a.m., 8.42 p.m. Full moon, 8th; new moon, 23rd.

High water at Fort Denison, May 18: 4.28 a.m., 5.0 p.m.

H. A. LENEHAN,
Acting Government Astronomer.

Stations.	Wt.	Mx	Mn	Rs.
Albury ..	n	59	51	0
Armidale	c	55	37	0·03
Balranald	b	71	36	0
Bathurst	f	53	31	0·08
Bendemeer	c	56	32	0
Bodalla ..	g	67	33	0
Bourke ..	b	58	42	0·03
Bungarra	c	64	39	0·06
C'md'n H.	u	66	52	0·20
C. St. Geo.	r	66	50	0·42
Carcoar ..	u	50	36	0
Casino ..	c	74	51	0·31
Cassilis ..	b	56	44	0
Clarence .	c	75	54	0·05
C'nd'b'lin	b	64	33	0
Cooma ..	c	51	34	0
Coonab'n.	b	63	36	0·02
Cowra ..	g	58	38	0
Cudg'llico	b	75	45	0
Deniliq'n.	b	64	38	0
Dubbo ..	b	61	36	0·19
Eden	b	61	53	0
Euston ..	b	68	38	0
Forbes ..	n	—	36	0
Glen Inn's	u	51	36	0
Goulburn	g	56	3[illegible]	0
Grafton ..	u	74	54	0·22
Gulgong .	b	57	38	0
Gunned'h	c	61	40	0
Hay ..	b	60	35	0
Inveroll ..	u	59	40	0
Kiandra ..	o	44	32	0
Lismore .	c	76	54	0·15
Maitland .	r	60	45	0·29
Marsdens.	b	60	46	0
Menindie.	b	62	46	0
Molong ..	f	46	39	0
M'r'ng'r'll	b	59	37	0
Moree ..	u	67	46	0
Moruya ..	c	63	44	0
Moss Vale	b	51	41	0·08
Mt. Hope	f	67	41	0
M. Vict'ria	r	53	35	0·11

SYDNEY OBSERVATORY.

LATITUDE 33° 51' 41" S. LONGITUDE 10h. 4m. 50·31s. E.

MAGNETIC VARIATION, 9° 35' 37" E.

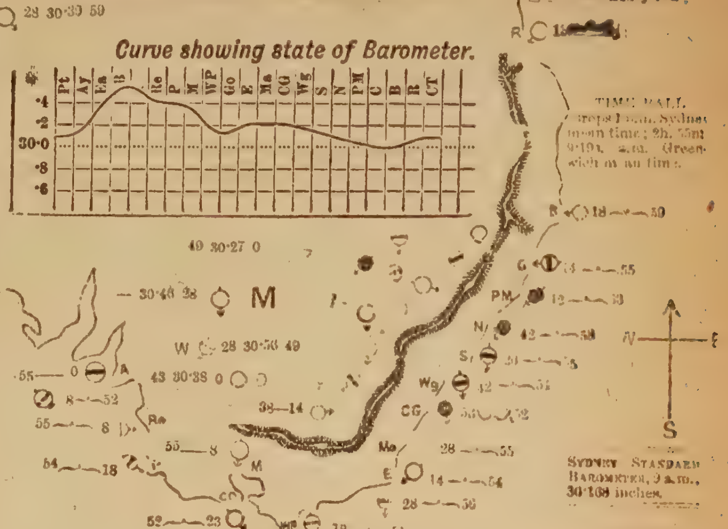
Average Annual Rainfall for 28 years ... 49·4[illegible]

Average for 29 years from Jan. 1 to April 30 1887 ... 20·[illegible]

Total Rainfall from Jan. 1, to May 18 1887 ... 2[illegible]

Barometers corrected to 32° Fah. and Mean Sea Level

Fine, wind N. ... E
T. storm, wind S. ... R
If it is CALM, the ... used without the arrow
Smooth sea.
Heavy sea.



H.C. RUSSELL
GOVERNMENT ASTRONOMER

NOTES EXPLANATORY OF MAP.

In the list of stations the column headed W.T. gives the state of the weather at 9 a.m., b standing for blue sky; c, detached clouds; d, drizzling rain; f, fog; g, gloomy; h, hazy; m, misty; n, frosty; o, overcast; p, passing showers; r, rain; s, snow; t, thunder; u, threatening. The next column, M'x gives the maximum temperature for previous 24 hours. M'n the corresponding minimum temperature. Rn, the rain for the previous 24 hours. The symbols used in the map are explained on the margin. At each coast station the wind symbol is placed like a vane pointing to the direction from which the wind is coming. A clear circle with it means fine weather; a circle with bar, cloudy weather; and a black spot, raining. Next to this symbol are placed figures denoting the number of miles the wind is moving per hour; next, a symbol showing the state of the sea; and, lastly, figures denoting the shade temperature at 9 a.m.. The barometer curve shows the state of barometers round the coast from Perth to Cooktown: Pt, Perth; Ay, Albany; Ea, Eucla; CB, Cape Borda; A, Adelaide; Ro, Robe; P, Portland; M, Melbourne; WP, Wilson's Promontory; Go, Gabo; E, Eden; Ma, Moruya; CC Jervis Bay; Wg, Wollongong; S, Sydney; N, Newcastle; PM, Port Macquarie; C, Clarence River; B, Brisbane; R, Rockhampton; Ct, Cooktown. Inland the state of barometer is given in figures at Albury, Deniliquin, Wentworth, Menindie, Bourke, and Alice Springs. The barometer curve enables one at a glance to trace the depressions, beginning with Western Australia, and passing along eastwards; northerly winds preceding them, and southerly following.

The rainfall on Sundays or holidays, when this map is not published, is in a case included in the quantities shown by the next following map.

9 A.M. OBSERVATIONS.

Western Australia.—Generally cloudy and unsettled, with light to fresh N. to E. winds. Risen barometers and smooth sea. Rainfall: Geraldton, 0·53; and Perth, 0·14 inch. Extremes of barometers and temperature: Esperance Bay, 30·20; Carnarvon, 30·04 and 77·; Perth, 48·.

South Australia.—Generally overcast and gloomy south of Hawker and east of Cape Borda, with light southerly winds and calms, high barometers and smooth sea. Rains have fallen south of Lawra, generally from 0·02 to 0·12 inches. In Northern Territory, fine, with rather strong S.E. winds. Extremes of barometers and temperature: M'Donnell Bay, 30·54 and 52·; Port Darwin, 30·08 and [illegible]

Victoria.—Generally more or less cloudy and gloomy, with showers at Lake's Entrance and Ballarat; light variable (chiefly southerly) winds, risen barometers, and smooth to moderate sea. Rainfall: Lake's Entrance, 0·47; Wilson's Promontory, 0·27; elsewhere, from 0·01 to 0·04 inches. Extremes of barometers and temperature: Horsham, 30·45 and 59·; Lake's Entrance, 30·26; and Omeo, 46·.

Tasmania.—Generally unsettled, with variable winds, risen barometers, and smooth sea. Extremes of barometers and temperature: Circular Head, 30·32 and 51·; Falmouth, 30·25; and Hobart, 43·.

New Zealand.—Generally fine, with N. to N.W. winds, and in extreme north calm. Barometers: In north, 30·0 to 29·9; over centre, 29·8; and in south, 29·8.

New South Wales.—Fine in W. parts, cloudy gloomy, and raining in the eastern division, stormy on the coast. During the previous 24 hours rains fell in the northern half of the colony generally, principally near the coast and ranges, and heaviest at Nelson's Bay, Newcastle, Sydney, and Wollongong, where the records were, 3·27, 1·08, 1·03 and 0·91 inches respectively. Winds were southerly generally, light to fresh inland, and strong and squally on the coast: the sea was moderate, but rising; and heavy at Cape St. George. Extra stations: Wilcannia, 0·41; Gabo Island, 0·06 and Hill End, 0·03 inches rain fallen. Extremes of barometers and temperature: Wentworth, 30·56; Clarence, 30·00; Gabo Island, 56·; Kiandra and Bathurst, 35·. For further particulars see map.

Queensland.—In the southern half of the colony, fine, clear and cold, with light S.E. to S.W. winds, slightly risen barometers, and moderate sea. Rainfall: Mackay, 0·22; Rockhampton, 0·02; Roma and Thargomindah, 0·01 inches. No reports from northern parts. Extremes of barometers and temperature: Roma, 30·1[illegible] and 49·; Brisbane, 30·01 and 59·.

3 P.M. OBSERVATIONS.

Victoria.—Portland, S., 23, showery, smooth sea, temperature 57·; Cape Otway, W.S.W., misty, slight sea, temperature 56·; Melbourne, S.W., 13, fine but cloudy, temperature 55·; Cape Schanck, S., 13, overcast and misty, slight sea, temperature 58·; Wilson's Promontory, S.W., 23, overcast and squally, moderate sea, temperature 53·; Lakes Entrance, W., 8, overcast and gloomy, temperature 57·.

New South Wales.—Menindie, S., 28, cloudy and dull, temperature 58·; Wentworth, S., 14, fine and clear, temperature 55·; Deniliquin, S., 14, fine, temperature 62·; Eden, S.W., 11 showery, light east sea, temperature 57·; Moruya, S., 42, fine but cloudy, smooth sea, temperature 62·; Cape St. George, S., 56, showery and squally, heavy sea, temperature 54·; Sydney, S.S.W., 23, raining and squally, heavy sea, temperature 5[illegible]·; Newcastle, S.S.W., 56, stormy, sea rising, temperature 58·; Port Macquarie, S.E., 23, overcast, smooth sea, temperature 54·; Clarence River, S.W., 14, raining, moderate sea, temperature 62·; Walgett, S.S.W., 14, fine, temperature 65·; Dubbo, E., 14, fine but cloudy, temperature 62·; Goulburn, S.E., 14, dull, temperature 57·.

Queensland.—Rockhampton, S.W., 23, fine and clear, temperature 65·; Roma, S., 13, cloudy, temperature 62·.

HEIGHT OF RIVERS ABOVE SUMMER LEVEL.

Macintyre: At Mungindi, low. Barwon: At Mogil Mogil, low; at Walgett, 4 feet 6 inches. Namoi: At Walgett, 2 feet. Culgoa: At Goodooga, 2 feet 3 inches. Darling: At Brewarrina, [illegible] feet 10 inches; at Bourke, 7 feet 7 inches; at Louth, 7 feet 1[illegible] inches; at Tilpa, 13 feet 6 inches; at Wilcannia, 24 feet; at Menindie, 27 feet 1 inch; at Pooncarie, 23 feet 7 inches; at Wentworth, 13 feet 3 inches. Murrumbidgee: At Gundagai, 3 feet 6 inches; at Wagga, 3 feet; at Hay, 3 feet; at Balranald, 8 feet 9 inches. Murray: At Albury, 2 feet; at Euston, 7 feet 2 inches.

ASTRONOMICAL MEMORANDA FOR MAY 19.

Sun rises at 6.49 sets at 5.3; Moon, 3.12 a.m., 3.2 p.m.; Mercury, 6.4 a.m., 4.38 p.m.; Venus, 9.53 a.m., 7.29 p.m.; Mars, 6.21 a.m., 4.42 p.m.; Jupiter, 3.30 p.m., 4.26 a.m.; Saturn, 10.40 a.m., 8.38 p.m. Full moon, 8th; new moon, 23rd.

High water at Fort Denison: 5.28 a.m., 5.56 p.m.

H. A. LENEHAN,
Acting Government Astronomer.

SYDNEY OBSERVATORY.

LATITUDE 33° 51' 41" S. LONGITUDE 10h. 4m. 50·31s. E.

MAGNETIC VARIATION, 9° 35' 37" E.

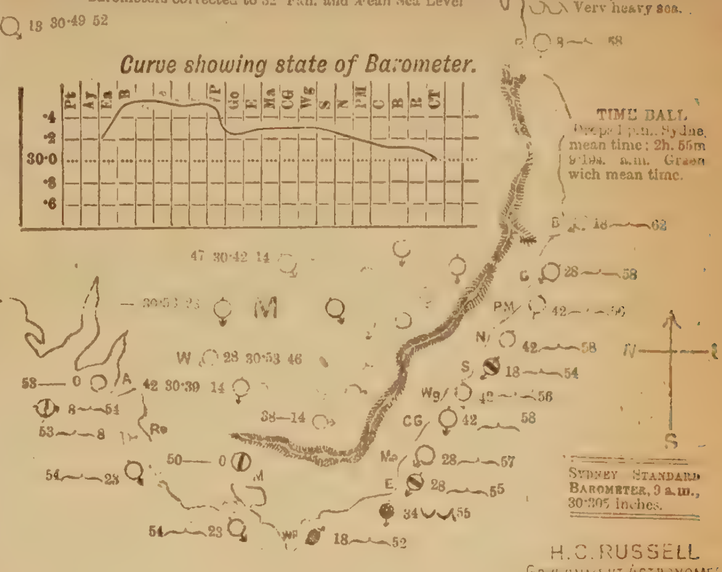
Average Annual Rainfall for 28 years.................49·439
Average for 29 years from Jan. 1 to April 30 1887 ..20·374
Total Rainfall from Jan. 1, to May 19 1887 ...... 22·296

Barometers corrected to 32° Fah. and Mean Sea Level

Stations.	bvt	Mx	m	Rn.
Albury ..	n	62	37	0
Armidale	b	51	44	0·03
Balranald	b	74	36	0
Bathurst	f	57	27	0
Bendem'r	b	57	43	0
Bodalla ..	b	62	46	0
Bourke ..	b	65	40	0
Buncarra	b	60	42	0
C'nd'n H.	b	65	54	0·48
C. St. Geo.	b	69	50	0
Carcoar ..	n	50	31	0
Casino ..	b	69	41	0
Cassilis ..	n	57	39	0
Clarence .	b	66	52	0
C'nd'b'lin	b	62	33	0
Cooma ..	c	53	41	0
Coonab'n.	n	62	26	0
Cowra ..	n	59	29	0
C'd'llico	b	73	36	0
Den'liq'n.	b	69	35	0
Dubbo ..	b	68	31	0
Eden	u	61	51	0·01
Euston ..	b	67	32	0
Forbes ..	b	--	44	0
Glen Inn's	b	52	41	0
Goulburn	g	57	36	0

23——58
EUCLA

Grafton ..	b	70	55	0
Gulgong .	b	55	33	0
Gunned'h	b	61	46	0
Hay	b	62	34	0
Inverell ..	b	58	38	0
Kiandra ..	c	40	29	0
Lismore .	b	69	51	0
Maitland .	b	61	52	0·13
Marsdens.	b	59	46	0
Menindie.	b	59	43	0
Molong ..	b	46	29	0
M'r'ng'r'll	b	51	34	0
Moree ..	b	69	42	0
Moruya ..	b	63	50	0
Moss Vale	u	49	42	0
Mt. Hope	n	69	38	0
M. Vict'ria	b	44	35	0
Mudgee ..	n	65	30	0
M'rr'mb'h	n	64	40	0
M'rr'r'ndi	b	53	47	0·08
Mus'lbr'k	b	65	42	0
Narrabri	b	65	41	0
Newcastle	b	63	51	0·49
Orange ..	n	51	34	0
Picton ..	b	55	47	0
P. M'q'rie	b	61	52	0·58
P. St'ph'n	r	58	48	1·85
Q'ubevan	b	54	37	0
Quirindi	g	62	49	0
Singleton	b	57	52	0
SYDNEY ..	c	58	51	0·33
T'mw'rth	--	--	--	--
Taralga ..	b	54	30	0
Taree	u	60	52	0·13
T'nt'rfield	b	57	48	0
Wagga ..	b	61	27	0
Walcha ..	o	56	26	0
Walgett	b	—	—	0
Warrah ..	u	63	—	0
W'ntw'rth	b	61	40	0
W'll'ng'ng	b	62	56	0
Young ..	n	78	31	0



Fine, wind N. T. storm, wind S.

If it is CALM, the symbol is used without the arrow.

Smooth sea.

Heavy sea.

Very heavy sea.

H. C. RUSSELL

GOVERNMENT ASTRONOMER

NOTES EXPLANATORY OF MAP.

In the list of stations the column headed W. [illegible] weather at 9 a.m., b standing for blue sky [illegible] fog [illegible] hazy, m, misty, n, frosty, o, overcast, p, passing showers, r, rain, s, snow, t, thunder, u, threatening. [illegible] Mx gives the maximum temperature for previous 24 hours. Mn the corrected minimum temperature. Rn the rain for the previous 24 hours. The symbols [illegible] are explained on the margin. At each coast station the wind symbol is placed like a vane pointing to the direction from which the wind is coming. A clear circle with it means fine weather; a circle with bar, cloudy weather; [illegible] raining. Next to the symbol are placed figures denoting the number of miles the wind is moving per hour; next, a symbol showing the state of the sea; and, lastly, figures denoting the shade temperature at 9 a.m. The barometer curve shows the state of barometer round the coast from Perth to Cooktown:—Pt, Perth, Ay, Albany; Ea, Eucla; CB, Cape Borda; A, Adelaide; Re, Robe; P, Portland; M, Melbourne; WP, Wilson's Promontory; Go, Gabo; E, Eden; Ma, Moruya; CG Jervis Bay; Wg, Wollongong, S, Sydney; N, Newcastle; PM, Port Macquarie; C, Clarence River, B, Brisbane; R, Rockhampton; C., Cooktown. Inland the state of barometer is given in figures at Albury, Deniliquin, Wentworth Menindie, Bourke, and Alice Springs. The barometer curve enables one at a glance to trace the depressions, beginning with Western Australia, and passing along eastwards; northerly winds preceding them, and southerly following.

The rainfall on Sundays or holidays, when this map is not published, is in all cases included in the quantities shown by the next following map.

9 A.M. OBSERVATIONS.

Western Australia.—Generally more or less cloudy and gloomy, with light S.E. to W. winds and calms. Risen barometers and smooth sea. Extremes of barometers and temperature: Perth, 30·22 and 49°; Carnarvon, 30·11 and 76°.

South Australia.—Generally fine and cold, with scattered clouds on the coast and along the Murray; light variable, chiefly S.E., winds and calms; high barometers and smooth sea. In Northern Territory strong S.E. winds. Rainfall: Robe 0·03; M'Donnell Bay 0·10, and still raining. Extremes of barometers and temperature: M'Donnell Bay, 30·56 and 52°; Port Darwin, 30·10 and 72°.

Victoria.—Generally more or less cloudy and unsettled, with light rains falling in S.E. parts, light to fresh S. to E. winds, high barometers, and slight to moderate sea. Rainfall: Generally from 0·01 to 0·09 inch. Extremes of barometers and temperature: Cape Otway, 30·53; Echuca, 30·36; Horsham, 59°; and Omeo, 56°.

Tasmania.—Generally more or less cloudy, with light variable winds and calms, high barometers, and moderate to rough sea. Foggy and 0·08 inch rain fallen at Hobart. Extremes of barometers and temperature: Southport, 30·53 and 36°; Circular Heads, 30·49 and 50°.

New Zealand.—In extreme north: Fine, with strong N.W. wind, and rough sea; showery from S.E. in Cook Strait; fine, with W. wind in extreme south; on the north-west coast and over the centre generally showery and squally. Barometers: In north, 29·5; over centre, 29·7; and in south, 30·0.

New South Wales.—Generally fine and cold; on the ranges frosty, and cloudy at places along the coast, with showers at Nelson's Bay and Gabo Island. Winds generally fresh and strong from S.E. and S.W., and the sea moderate, but rather rough at Gabo Island, and between Sydney and Camden Haven. During the previous 24 hours rains fell along the coast, but partially; heaviest at Nelson's Bay, 1·87 inch. Extra station: Gabo Island, ·39 inch rain fallen. Extremes of barometers and temperature: Wentworth and Menindie, 30·53; Clarence, 30·17; Cape St. George, 58°; and Bathurst, 31°.

Queensland.—Generally fine and cold, with fresh to strong S.E. winds, risen barometers, and moderate to rough sea. No rain reported. Extremes of barometers and temperature: Roma, 30·28 and 55°; Townsville, 29·91; and Cooktown, 78°.

3 P.M. OBSERVATIONS.

Victoria.—Portland, E.S.E., 23, cloudy, smooth sea, temperature 57°; Cape Otway, S., 18, fine and clear, slight sea, temperature 59°; Melbourne, S.E., 13, fine but cloudy, temperature 57°; Cape Schanck, E., 13, fine but cloudy, slight sea, temperature 59°; Wilson's Promontory, E., 13, fine but cloudy, moderate sea, temperature 56°; Lakes Entrance, S.E., 18., fine but cloudy, temperature 59°.

New South Wales.—Menindie, S.W., 28, cloudy and dull, temperature 59°; Wentworth, S., 14, fine, temperature 54°; Deniliquin, S., 14, fine, temperature 62°; Eden, S., 28, showery, light east sea, temperature 59°; Moruya, S., 42, cloudy, moderate sea, temperature 58°; Cape St. George, S., blowing a gale, showery, sea rising, temperature 59°; Sydney, S.S.W., 20, raining and squally, sea rising, temperature 54°; Newcastle, S.S.W., 56, cloudy, moderate sea, temperature 62°; Port Macquarie, S.S.W., 56, cloudy, moderate sea, temperature 64°; Clarence River, S., 42, fine, moderate sea, temperature 67°; Walgett, S.W., 14, fine and clear, temperature 64°; Dubbo, S.E., 14, fine temperature 60°; Goulburn, S.E., 14, dull, temperature 58°. South Head reports a gale at 7.25 p.m.

Queensland.—Normanton, S.E., 8, cloudy, temperature, 69°; Rockhampton, S.S.W., 8, fine, temperature 69°; Roma, S., 18, fine and clear, temperature 52°; Cape Moreton, S.S.E., 34, fine, temperature 67°; Brisbane, S.S.W., fine, temperature 70°.

HEIGHT OF RIVERS ABOVE SUMMER LEVEL.

Macintyre: At Mungindi, low. Barwon: At Mogil Mogil, low; at Walgett, 4 feet 6 inches. Namoi: At Walgett, 2 feet. Culgoa: At Goodooga, 2 feet 2 inches. Darling: At Brewarrina, 3 feet; Bourke, 7 feet 3 inches; at Louth, 7 feet 4 inches; at Tilpa, 13 feet; at Wilcannia, 21 feet 10 inches; at Menindie, 27 feet 1 inch; at Pooncarie, 23 feet 7 inches; at Wentworth, 13 feet 1 inch. Murrumbidgee: At Gundagai, 3 feet 6 inches; at Wagga, 3 feet; at Hay, 2 feet 11 inches; at Balranald, 7 feet 10 inches. Murray: At Albury, 2 feet; at Euston, 7 feet.

ASTRONOMICAL MEMORANDA FOR MAY 20.

Sun rises at 6.50, sets at 5.3; Moon, 4.4 a.m., 3.34 p.m.; Mercury, 6.10 a.m., 4.40 p.m.; Venus, 9.54 a.m., 7.31 p.m.; Mars, 6.20 a.m., 4.40 p.m.; Jupiter, 3.25 p.m., 4.21 a.m.; Saturn, 10.37 a.m., 8.35 p.m. Full moon, 8th; new moon, 23rd.

High water at Fort Denison, May 20: 6.20 a.m., 6.43 p.m.

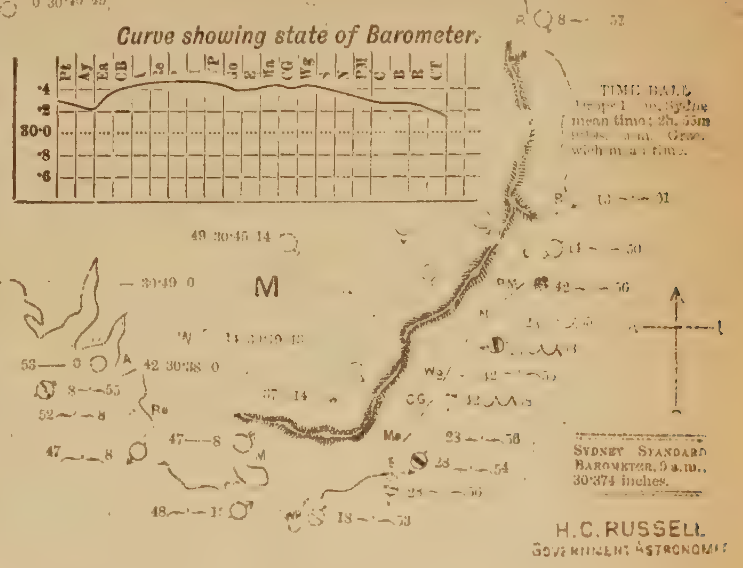
H. A. LENEHAN,
Acting Government Astronomer.

SYDNEY OBSERVATORY.

LATITUDE 33° 51′ 41″ S. LONGITUDE 10h. 4m. 50·51s. E.
MAGNETIC VARIATION, 9° 35′ 37″ E.

Average Annual Rainfall for 28 years ... 49·48
Average for 29 years from Jan. 1 to April 30 1887 ... 20·374
Total Rainfall from Jan. 1, to May 20 1887 ...... 23·076

Barometers corrected to 32° Fah. and Mean Sea Level



Stations.	wt	Mx	Mn	Rs.
Albury ..	n	62	37	0
Armidale	c	76	45	0
Balranald	b	77	33	0
Bathurst	b	59	29	0
Bendem'r	g	60	45	0
Bodalla ..	g	66	49	0
Bourke ..	b	69	41	0
Bungarra	b	70	41	0
C'md'n H.	r	61	54	0·36
C. St. Geo.	c	62	50	0·23
Carcoar ..	b	50	36	0
Casino ..	b	72	39	0
Cassilis ..	o	58	42	0
Clarence .	b	71	52	0
C'nd'o'lin	b	64	34	0
Cooma ..	c	53	35	0·24
Coonab'n.	b	63	31	0
Cowra ..	b	67	36	0
Cudg'llico	b	77	34	0
Deniliq'n.	b	71	37	0
Dubbo ..	b	66	33	0
Eden	u	59	50	0·01
Euston ..	b	71	28	0
Forbes ..	u	—	42	0
Glen Inn's	b	61	41	0
Goulburn	g	56	34	0
Grafton ..	b	69	55	0
Gulgong ..	b	58	33	0
Gunned'h	b	62	45	0
Hay ..	b	64	41	0
Inverell ..	n	62	31	0
Kiandra ..	n	61	29	0
Lismore ..	b	73	47	0
Maitland .	u	65	50	0·06
Marsdens.	b	58	44	0
Menindie.	b	59	44	0
Molong ..	b	46	30	0
M'r'ng'r'll	b	51	38	0
Moree ..	b	77	41	0
Moruya ..	g	63	52	0·01
Moss Vale	u	51	43	0·07
Mt. Hope	b	71	42	0
M. Vict'ria	o	50	37	0
Mudgee ..	n	63	35	0
M'rr'mb'h	b	65	32	0
M'rr'r'ndi	g	56	48	0
Mus'lbr'k	c	64	40	0
Narrabri	b	66	41	0
Newcastle	g	68	51	0·39
Orange ..	b	51	38	0
Picton ..	g	60	47	0
P. M'q'rie	r	64	50	0·30
P. St'ph'n	r	58	48	1·04
Q'nbeyan	c	59	34	0
Quirindi	u	69	50	0
Singleton	g	62	53	0
SYDNEY ..	u	60	50	0·78
Tamw'rth	—	—	—	—
Taralga ..	r	63	39	0
Taree ..	b	62	51	0·22
T'nt'rfield	b	67	50	0
Wagga ..	b	61	27	0
Walcha ..	o	46	26	0·01
Walgett	b	—	41	0
Warrah ..	r	60	—	0·02
W'ntw'rth	n	64	39	0
W'll'ng'ng	r	61	55	0·09
Young ..	b	81	33	0

NOTES EXPLANATORY OF MAP.

In the list of stations the column headed Wt. gives the state of the weather at 9 a.m., b stands for blue sky; c, clouded; d, drizzling rain; f, fog; g, gloomy; h, hazy; m, misty; n, frosty; o, overcast; p, passing showers; r, rain; s, snow; t, thunder; u, threatening. The next column, Mx, gives the maximum temperature for previous 24 hours. Mn. the corresponding minimum temperature. Rs. the rain for the previous 24 hours. The symbols used in the map are explained on the margin. At each coast station the wind symbol or arrow is placed like a vane pointing to the direction from which the wind is coming. A clear circle with it means fine weather; a circle with bar, cloudy weather; and a black spot, raining. Next to this symbol are placed figures denoting the number of miles the wind is moving per hour; next, a symbol showing the state of the sea; and, lastly, figures denoting the shade temperature at 9 a.m. The barometer curve shows the state of barometers round the coast from Perth to Cooktown: Pt, Perth; Ay, Albany; Eu, Eucla; CB, Cape Borda; A, Adelaide; Re, Robe; P, Portland; M, Melbourne; W P, Wilson's Promontory; Go, Gabo; E, Eden; Ma, Moruya; C, Crowdy Bay; Wg, Wollongong; S, Sydney; N, Newcastle; PM, Port Macquarie; C, Clarence River; B, Brisbane; R, Rockhampton; Ct, Cooktown. Inland the state of barometer is given in figures at Albury, Deniliquin, Wentworth, Menindie, Bourke, and Alice Springs. The barometer curve enables one at a glance to trace the depressions, beginning with Western Australia, and passing along eastwards; northerly winds preceding them, and southerly following.

The rainfall on Sundays or holidays, when this map is not published, is in all cases included in the quantities shown by the next following map.

9 A.M. OBSERVATIONS.

Western Australia.—Fine along the west coast, with light to fresh easterly winds, and moderate to rather rough sea. On the south coast gloomy and foggy with light N.W. to W. winds and smooth sea. Rainfall: Albany, 0·05 inch. Extremes of barometers and temperature: Perth, 30·30 and 46°; Cossack, 30·14 and 73°.

South Australia.—Generally fine, with clouds, heavy dew, and frosts at places on the coast; light variable chiefly S.E. to N.E. winds and calms, slightly fallen barometers, and smooth to moderate sea. In Northern Territory cloudy and gloomy with S.E. winds. Rainfall: Powell's Creek, 0·34; and ... 's Creek, 0·02. Extremes of barometers and temperature: ... on nel Bay, 30·48; Port Darwin, 30·17 and 74°; Robe, 52°.

Victoria.—Generally fine with light easterly winds, slightly fallen barometers, and smooth sea. Heavy dew and frosts generally. Clouds at scattered places. No rain reported. Extremes of barometers and temperature: Horsham, 30·50 and 59°; Lakes' Entrance, 30·39; and Omeo, 40°.

Tasmania.—Generally unsettled and cold, with light variable winds, slightly fallen barometers, and smooth sea. Dense fogs in N.E. and E. parts; frosty at Southport. Extremes of barometers and temperature; Low Heads, 30·48; Southport, 30·45 and 35°; Falmouth, 43°.

New Zealand.—Gloomy, and rough sea in extreme north; fine to southward; winds from S.E. to SW., and strong generally; 0·77 inch rain fallen at Wellington. Barometers: In north, 29·4 to 29·5; over centre, 29·7; and in south, 29·8 inches.

New South Wales.—Fine and cold west of the ranges; cloudy, gloomy, and threatening, with passing showers, at a few scattered places on and near the coast. Winds, inland, light from S.E.; along the coast, fresh to strong from S. to S.W., and at places stormy. The sea moderate, but rough at Cape St. George, and between Sydney and Camden Haven. During the previous 24 hours light partial rains fell along the coast, heaviest at Port Stephens—1·04 inch. Extremes of barometers and temperature: Wentworth and Menindie, 30·49; Clarence, 30·25; Cape St. George, 58°; and Kiandra, 36°. For further particulars see map.

Queensland.—Generally fine and cold, with light to fresh S.W. to S.E. winds, slightly risen barometers, and moderate to rather rough sea. Cloudy and dull at places in central parts. Sharp frost during the night at Roma. Extremes of barometers and temperature: Roma, 30·33 and 48°; Cooktown, 30·16 and 78°.

3 P.M. OBSERVATIONS.

Victoria.—Portland, S.W., 8, overcast, smooth sea, temperature 56°; Cape Otway, S., 8, fine, smooth sea, temperature 59°; Melbourne, S., 13, fine, temperature 56°; Cape Schanck, calm, fine but cloudy, smooth sea, temperature 58°; Wilson's Promontory, N.E., 13, fine but cloudy, smooth sea, temperature 59°; Lakes Entrance, E., 18., fine but cloudy, temperature 57°.

New South Wales.—Menindie, calm, fine and clear, temperature 60°; Wentworth, S., 14, fine and clear, temperature 5?°; Deniliquin, calm, fine and clear, temperature 63°; Eden, S., 14, fine, light, east sea, temperature 60°; Moruya, S., 28, overcast and gloomy, moderate sea, temperature 60°; Cape St. George, S.S.W., 42, cloudy, heavy sea, temperature 60°; Sydney, S.S.W., 25, threatening and squally, rough sea, temperature 57°; Newcastle, S., 14, raining, moderate sea, temperature 56°; Port Macquarie, S.S.W., 56, cloudy, moderate sea, temperature 6?°; Clarence River, S., 56, fine, moderate sea, temperature 66°; Walgett, S.E., 14, fine temperature 61°; Dubbo, calm, fine but cloudy, temperature 61°; Goulburn, S., 14, fine, temperature 60°.

Queensland.—Normanton, overcast, temperature, 83°; Townsville, S.E., 8, fine, temperature 72°; Cape Moreton, S.S.E., 31, fine, temperature 66°; Roma, S.E., 8, fine, temperature 66; Rockhampton, S.E., 8, fine, temperature 69°; Brisbane, S.S.W., 13, fine but cloudy, temperature 69°.

HEIGHT OF RIVERS ABOVE SUMMER LEVEL.

Macintyre: At Mungindi, low. **Barwon:** At Mogil Mogil, low; at Walgett, 4 feet 6 inches. **Namoi:** At Walgett, 2 feet. **Culgoa:** At Goodooga, 2 feet 1 inch. **Darling:** At Brewarrina, 2 feet; at Bourke, 6 feet 11 inches; at Louth, 7 feet; at Tilpa, 12 feet 7 inches; at Wilcannia, 20 feet 10 inches; at Menindie, 27 feet 1 inch; at Pooncarie, 23 feet 7 inches; at Wentworth, 13 feet 1 inch. **Murrumbidgee:** At Gundagai, 3 feet 6 inches; at Wagga, 3 feet; at Hay, 2 feet 9 inches; at Balranald, 7 feet 4 inches. **Murray:** At Albury, 2 feet; at Euston, 6 feet 10 inches.

ASTRONOMICAL MEMORANDA FOR MAY 21.

Sun rises at 6.51, sets at 5.2; Moon, 4.58 a.m., 4.8 p.m.; Mercury, 6.16 a.m., 4.42 p.m.; Venus, 9.56 a.m., 7.32 p.m.; Mars, 6.20 a.m., 4.40 p.m.; Jupiter, 3.21 p.m., 4.17 a.m.; Saturn, 10.33 a.m., 8.31 p.m. Full moon, 8th; new moon, 23rd.

High water at Fort Denison, May 21: 7.5 a.m., 7.36 p.m.

H. A. LENEHAN,
Acting Government Astronomer.

Stations.	W'r	Mx	M'n	Rn.
[illegible]	l	61	34	0
Armidale	b	55	46	0
Balranald	b	81	34	0
Bathurst	c	57	31	0
Bendem'r	b	60	36	0
Bodalla ..	b	66	36	0
Bourke ..	b	70	43	0
Buncarra	b	70	36	0
C'md'n H.	u	65	55	0
C. St. Geo.	b	61	51	0
Carcoar ..	n	50	31	0
Casino ..	c	71	43	0
Cassilis ..	o	56	45	0
Clarence .	b	72	53	0
C'nd'b'lin	b	65	34	0
Cooma ..	f	54	22	0
Coonab'n.	n	63	28	0
Cowra ..	c	59	35	0
Cudg'llico	b	66	36	0
Deniliq'n.	b	70	35	0
Dubbo ..	b	67	37	0
Eden	b	60	45	0
Euston ..	b	79	30	0
Forbes ..	n	—	58	0
Glen Inn's	b	63	34	0
Goulburn	f	55	20	0
Gra[illegible] .	b	71	54	0
Gulgong .	b	59	33	0
Gunned'h	b	62	43	0
Hay . ..	b	67	43	0
Inverell ..	n	55	31	0
Kiandra ..	n	52	29	0
Lismore .	c	73	51	0
Maitland .	b	61	50	0·02
Marsdens.	u	62	44	0
Menindie.	b	64	46	0
Molong ..	b	44	29	0
M'r'ng'r'll	c	60	36	0
Moree ..	b	78	43	0
Moruya ..	b	63	43	0
Moss Vale	b	50	39	0
Mt. Hope	b	70	43	0
M. Vict'ria	c	48	36	0
Mudgee ..	n	64	31	0
M'rr'mb'h	b	65	33	0
M'rr'r'ndi	g	55	49	0
Mus'lbr'k	c	66	49	0
Narrabri	h	66	45	0
Newcastle	r	63	50	1·50
Orange ..	g	52	36	0
Picton ..	b	60	40	0
P. M'q'rie	u	65	51	0·12
P. St'ph'n	c	61	48	0·37
Q'nbeyan	b	57	33	0
Quirindi	f	64	43	0
Singleton	b	60	52	0
SYDNEY ..	c	59	49	0·03
Tamw'rth	—	—	—	[illegible]
Taralga ..	b	59	34	0
Taree ...	g	64	53	0·04
T'nt'rfield	b	54	43	0
Wagga ..	b	62	26	0
Walcha ..	b	68	28	0·01
Walgett	o	—	41	0
Warrah ..	b	60	—	0
W'ntw'rth	b	68	39	0
W'll'ng'ng	b	64	51	0
Young ..	g	74	38	0

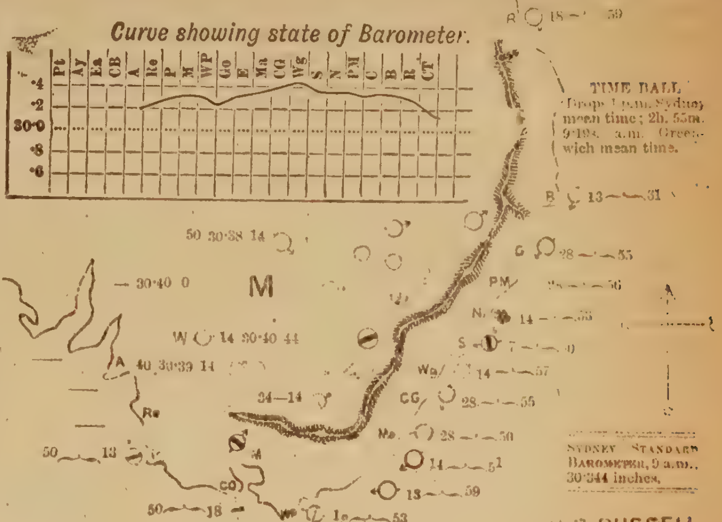
SYDNEY OBSERVATORY.

LATITUDE 33° 51′ 41″ S. LONGITUDE 10h. 4m. 50·31s. E.

MAGNETIC VARIATION, 9° 37′ 37″ E.

Average Annual Rainfall for 28 years .... 49·489
Average for 29 years from Jan. 1 to April 30 1887 . 20·374
Total Rainfall from Jan. 1, to May 21 1887 .. 25·09

Barometers corrected to 32° Fah. and Mean Sea Level



Fine, wind N. Cloudy, wind E.
T. storm, wind S. Rain, wind W.
If it is CALM, the symbol used without the arrow
Smooth sea.
Heavy sea
Very heavy sea.

TIME BALL
Drops 1 p.m. Sydney mean time; 2h. 55m. 9·19s. a.m. Greenwich mean time.

SYDNEY STANDARD BAROMETER, 9 a.m., 30·344 inches.

H. C. RUSSELL
GOVERNMENT ASTRONOMER

NOTES EXPLANATORY OF MAP.

In the list of stations the column headed W'r. gives the state of the weather at 9 a.m., b standing for blue sky; c, detached clouds; d, drizzling rain; f, fog; g, gloomy; h, hazy, m, misty; L, frosty; o, overcast; p, passing showers; r, rain; s, snow; t, thunder; u, threatening. The next column, M'x gives the maximum temperature for previous 24 hours. M'n the corresponding minimum temperature; Rn, the rain for the previous 24 hours. The symbols used in the map are explained on the margin. At each coast station the wind symbol is placed like a vane pointing to the direction from which the wind is coming. A clear circle with it means fine weather; a circle with bar, cloudy weather; and a black spot, raining. Next to this symbol are placed figures denoting the number of miles the wind is moving per hour; next, a symbol showing the state of the sea; and, lastly, figures denoting the shade temperature at 9 a.m. The barometer curve shows the state of barometers round the coast from Perth to Cooktown: Pt, Perth; Ay, Albany; Ea, Eucla; CB, Cape Borda; A, Adelaide; Re, Robe; P, Portland; M, Melbourne; WP, Wilson's Promontory; Go, Gabo; E, Eden; Ma, Moruya; CG Jervis Bay; Wg, Wollongong; S, Sydney; N, Newcastle; PM, Port Macquarie; C, Clarence River; B, Brisbane; R, Rockhampton; Ct, Cooktown. Inland the state of barometer is given in figures at Albury, Deniliquin, Wentworth, Menindie, Bourke, and Alice Springs. The barometer curve enables one at a glance to trace the depressions, beginning with Western Australia, and passing along eastwards; northerly winds preceding them, and southerly following.

The rainfall on Sundays or holidays, when this map is not published, is in all cases included in the quantities shown by the next following map.

9 A.M. OBSERVATIONS.

Western Australia.—Fine along the west coast, with fresh to strong E. to S.E. winds, steady barometers, and moderate to rough sea. Showery at Albany, with light west wind and smooth sea. Rainfall: 0·05 inch. At Esperance Bay, calm, threatening, and rough sea. Rainfall: 0·06 inch. Extremes of barometers and temperature: Perth, 30·37 and 46·; Cossack, 30·12 and 72·.

South Australia.—Generally fine and pleasant, and in parts frosty, with scattered clouds in S.E. parts; light N.E. winds and calm, fallen barometers, and smooth to moderate sea. In Northern Territory cloudy, with fresh S.E. winds; no rains reported. Extremes of barometers and temperature: Alice Springs, 30·34; Port Darwin, 30·02 and 72·; M'Donnell Bay, 49·.

Victoria.—Generally cloudy and unsettled, with light northerly winds and smooth sea. Dense fog and heavy frost at Omeo; heavy due on the coast, but no rains fallen. Extremes of barometers and temperature: Horsham, 30·35 and 58·; "Lakes' Entrance, 30·26; and Omeo, 40·.

Tasmania.—Generally cloudy and gloomy, with light, variable winds and calms, fallen barometers, and very smooth sea. Extremes of barometers and temperature: Low Heads, 30·30; Southport, 30·21 and 44·; Hobart, 40·.

New Zealand.—Fine in extreme north and south, with S.W. and N.E. winds respectively; gloomy and light rains over the centre, with S. to S.E. winds; 0·35 inch rain fallen at Wellington, and rough sea off Gisborne. On the N.W. Coast S.E. winds. Barometers: In north, 29·7 to 29·8; over centre, 29·8; and in south, 30·0.

New South Wales.—Generally fine and clear, except in central parts, where it is cloudy and gloomy. Along the coast still unsettled, and at Newcastle showery. Fogs and frost prevail on the ranges. Winds light, variable, chiefly N.E. to S.E., and the sea moderating. During the previous 24 hours light rains fell along the coast between Sydney and Port Macquarie, heaviest 1·50 inch at Newcastle. Extremes of barometers and temperature: Wentworth, Menindie, and Wollongong, 30·40; Gabo, 30·22; Wollongong, 57·; and Cooma, 30·. For further particulars see map.

Queensland.—Generally fine and cold, with clouds in N.E. parts, light S. to S.E. winds, slightly risen barometers, and moderate sea. Rainfall: Cooktown, 0·14, and Rockhampton 0·02 inches. Extremes of barometers and temperature: Roma 30·35 and 49·; Cooktown, 30·11 and 79·.

3 P.M. OBSERVATIONS.

Victoria.—Portland, N.N.W., 23, cloudy, smooth sea, temperature 58·; Cape Otway, N.N.W., 18, fine but cloudy, smooth sea, temperature 55·; Wilson's Promontory, W.N.W., 13, cloudy, slight sea, temperature 55·.

New South Wales.—Menindie, calm, dull and cold, temperature 60·; Wentworth, N.W., 14, fine and clear, temperature 56·; Deniliquin, N.W., fine, temperature 60·; Eden, N., 14, fine, slight sea, temperature 58·; Moruya, N.E., 14, fine, smooth sea, temperature 61·; Cape St. George, calm, cloudy but fine, smooth sea, temperature 61·; Sydney, S.E., 14, fine, moderate sea; Newcastle, S.E., 14, fine, moderate sea, temperature 62·; Port Macquarie, S., 18, fine, moderate sea, temperature 67·; Clarence River, fine, moderate sea, temperature 67·; Walgett, calm, fine, temperature 67·; Dubbo, E., fine, temperature 42·; Goulburn, calm, fine, temperature 59·.

Queensland.—Rockhampton, N.E., 18, fine, temperature, 72·; Roma, calm, fine and clear, temperature 69·; Cape Moreton, S.E., 28, fine, temperature 67·; Brisbane, calm, fine but cloudy, temperature 68·.

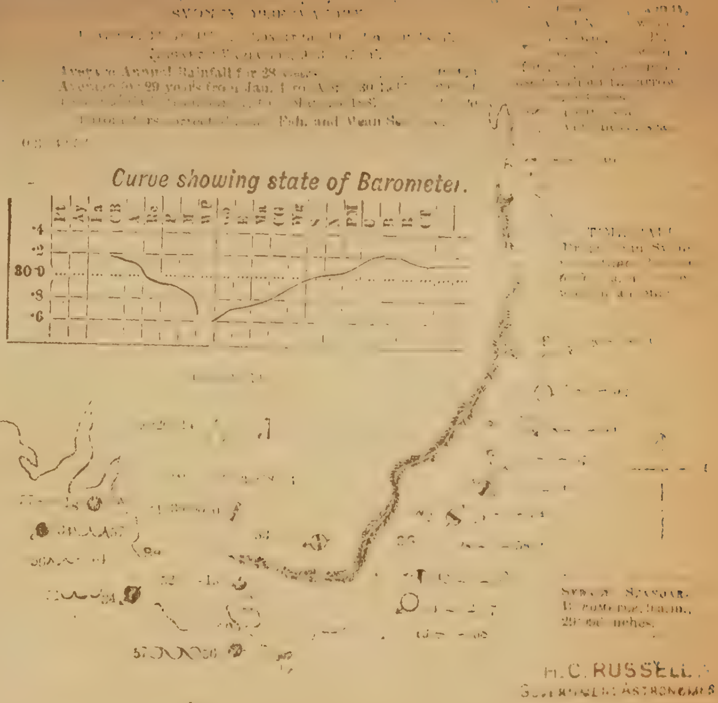
HEIGHT OF RIVERS ABOVE SUMMER LEVEL.

Macintyre: At Mungindi, low. **Barwon:** At Mogil Mogil, low; at Walgett, 5 feet. **Namoi:** At Walgett, 2 feet 4 inches. **Culgoa:** At Goodooga, 2 feet. **Darling:** At Brewarrina, 2 feet 8 inches; at Bourke, 6 feet 8 inches; at Louth, 6 feet 9 inches; at Tilpa, 12 feet; at Wilcannia, 19 feet 10 inches; at Menindie, 27 feet 1 inch; at Wentworth, 12 feet 11 inches. Murrumbidgee: At Gundagai, 3 feet 6 inches; at Wagga, 3 feet; at Hay, 2 feet 9 inches; at Balranald, 7 feet 3 inches. **Murray:** At Albury, 1 foot 11 inches; at Euston, 6 feet 8 inches.

ASTRONOMICAL MEMORANDA FOR MAY 23.

Sun rises at 6.52, sets at 5.1; Moon, 6.52 a.m., 5.22 p.m.; Mercury, 6.26 a.m., 4.46 p.m.; Venus, 9.58 a.m., 7.34 p.m.; Mars, 6.20 a.m., 4.36 p.m.; Jupiter, 3.13 p.m., 4.9 a.m.; Saturn, 10.26 a.m., 8.24 p.m. Full moon, 8th; new moon, 23rd. High water at Fort Denison, May 23: 8.27 a.m., 8.44 p.m.

H. A. LENEHAN,
Acting Government Astronomer.



Stations.	W.	Max.	Min.	R.
[illegible]	b	[illegible]	[illegible]	0
Armidale	n	[illegible]	[illegible]	[illegible]
[illegible]	n	[illegible]	[illegible]	0
Bathurst	b	67	27	0
Bendem'r	c	62	20	0
Bodalla	n	[illegible]	13	0
Bourke	[illegible]	74	41	0
[illegible]	b	[illegible]	[illegible]	0
[illegible]	b	[illegible]	[illegible]	0
C. St. Geo.	c	[illegible]	[illegible]	0
Carcoar	n	[illegible]	[illegible]	0
Casino	b	[illegible]	[illegible]	0
Cassilis	n	[illegible]	[illegible]	0
Clarence	b	[illegible]	[illegible]	0
C'nd'b'ln	b	[illegible]	[illegible]	0
Cooma	c	[illegible]	[illegible]	0
Coonab'n	n	[illegible]	[illegible]	0
Cowra	c	[illegible]	[illegible]	0
Cud'llies	b	[illegible]	[illegible]	0
Deniliq'n	n	[illegible]	[illegible]	0
Dubbo	b	[illegible]	[illegible]	0
Eden	b	[illegible]	47	0
Euston	c	71	40	0
Forbes	b	—	[illegible]	0
Glen Inn's	b	[illegible]	[illegible]	0
Goulburn	g	[illegible]	[illegible]	[illegible]

EUCLA

Stations.	W.	Max.	Min.	R.
Grafton	b	62	38	0
Gulgong	b	60	29	0
Gunned'h	b	63	37	0
Hay	c	62	37	0
Inverell	b	61	30	0
Kiandra	r	55	29	0·67
Lismore	f	78	47	0
Maitland	b	65	46	0
Marsdens	b	—	—	0
Menindie	b	66	50	0
Molong	b	40	29	0
M'r'ng'r'll	u	64	43	0
Moree	b	79	38	0
Moruya	c	65	40	0
Moss Vale	b	—	—	0
Mt. Hope	u	69	46	0
M. Vict'ria	u	53	35	0
Mudgee	b	60	26	0
M'rr'mb'h	u	67	35	0
M'rr'r'ndi	b	59	41	0
Mus'lbr'k	b	65	32	0
Narrabri	b	71	46	0
Newcastle	b	69	47	0·[illegible]
Orange	c	52	39	0
Picton	g	63	36	0
P. M'q'rie	b	67	43	0
P. St'ph'n	g	61	46	0
Q'nbeyan	c	69	35	0
Quirindi	n	69	38	–
Singleton	b	64	45	0
SYDNEY	c	63	48	0
Tamw'rth	f	65	29	0
Taralga	g	66	29	0
Taree	b	70	42	0
T'nt'rfield	b	64	29	0·18
Wagga	b	62	29	0
Walcha	n	56	21	0
Walgett	b	—	40	0
Warrah	n	63	—	0
W'ntw'rth	g	69	51	0
W'll'ng'ng	c	68	56	0
Young	u	75	36	0

NOTES EXPLANATORY OF MAP.

[illegible] ... with the corresponding minimum temperature [illegible] the rain for the previous [illegible] hours. The symbols used in the map are explained on the margin. At each coast station the wind symbol is placed like a vane pointing to the direction from which the wind is coming. A clear circle with it means fine weather; a circle with bar, cloudy weather; and a black spot, raining. Next to this symbol are placed figures denoting the number of miles the wind is moving per hour; next, a symbol showing the state of the sea; and, lastly, figures denoting the shade temperature at [illegible] a.m. The barometer curve shows the state of barometers round the coast from Perth to Cooktown: Pt, Perth; Ay, Albany; Ea, Eucla; CB, Cape Borda; A, Adelaide; Re, Robe; P, Portland, M, Melbourne, W P, Wilson's Promontory; Go, Gabo, E, Eden; Ma, Moruya, [illegible] Jervis Bay; Wg, Wollongong, S, Sydney; N, Newcastle; PM, Port Macquarie; C, Clarence River; B, Brisbane; R, Rockhampton; [illegible], Cooktown. Inland the state of barometer is given in figures at Albury, Deniliquin, Wentworth, Menindie, Bourke, and Alice Springs. The barometer curve enables one at a glance to trace the depressions, beginning with Western Australia, and passing along eastwards; northerly winds preceding them, and southerly following.

The rainfall on Sundays or holidays, when this map is not published, is in all cases included in the quantities shown by the next following map.

9 A.M. OBSERVATIONS.

South Australia.—Generally overcast, and light rain falling or threatening south of Beltana, and scattered clouds towards Port Darwin in north, fresh to strong west to south-west winds in south parts, and south to south-east in north; steady barometers and rough sea. Rain recorded south of Burra: Crafers, 1·72; Clarendon, 1·11; Penola, 0·40; and other stations smaller quantities. Extremes of barometers and temperature: Alice Springs, 30·42 and 52°; Robe, 29·99; and Port Darwin, 78°.

Victoria.—Stormy, showery weather generally, with very strong westerly winds and high sea. Fierce squalls reported from the Straits, and Cape Otway reports: "Tremendous sea, unprecedented in my experience here." Rainfall: Melbourne and Portland, 0·33; Hamilton, 0·29; Cape Otway, 0·32; and others smaller quantities. Extremes of barometers and temperature: Horsham, 30·02 and 58°; Cape Schanck, 29·81; and Ballarat, 46°. No reports from S.E. parts.

Tasmania.—At Low Heads, fine, with strong west winds, barometer 29·57, temperature 49°, and rainfall 0·18 inch; Southport, barometer 29·41, temperature 50°, with heavy showers; Falmouth, barometer 29·43, temperature 50°, fine and clear; Hobart, barometer 29·4a, temperature 45°, showery and squally.

New Zealand.—Generally fine, with south wind in north, calm over the centre, and north wind in south parts. Barometers: In south, 30·0; to northward, 30·1.

New South Wales.—Cloudy, gloomy, and threatening in S.E. parts, and along the Victorian border, with light rain falling at Kiandra; over the remainder of the colony fine, cool weather prevails. Winds generally are light from N.W. to W., but fresh to strong in south parts; the sea smooth to moderate. During the previous 48 hours light rain fell at a few scattered stations on the ranges—heaviest (0·67 inch) at Kiandra. A depression, the barometric gradient of which is such as produces a difference in pressure of 0·66 inch to 500 miles over this colony, has its centre situated near the east coast of Tasmania. It is travelling to some easterly point. Extremes of barometers and temperature: Walgett, 30·29; Gabo Island, 29·63 and 58°; Tamworth, 31°.

Queensland.—Generally cloudy and gloomy, with E. and S.E. winds in north parts; fine, with S. to S.W. winds in south; barometers fallen slightly, and the sea moderate. Heavy dew at places, but no rain reported. Extremes of barometers and temperature: Roma, 30·25 and 51°; Cooktown, 30·13 and 82°.

3 P.M. OBSERVATIONS.

Victoria.—Portland, W.S.W., 34, passing showers and squally, rough sea, temperature 54°; Cape Otway, W., 48, misty, [illegible] high sea, temperature 52°; Melbourne, W., 13, passing showers, temperature 52°; Cape Schanck, W.S.W., 23, overcast, misty and squally, rough sea, temperature 58°; Wilson's Promontory, Lakes Entrance, lines interrupted.

New South Wales.—Menindie, W., 28, fine, temperature 60°; Wentworth, W.S.W., 14, dull and like rain, temperature [illegible]; Deniliquin, calm, dull, like rain, temperature 63°; Queanbeyan, N.W. 42, cloudy; Eden, S.W., 42, cloudy and like rain, smooth sea, temperature 57°; Moruya, S., 42, cloudy, smooth sea, temperature 58°; Cape St. George, W., 56, cloudy, smooth sea, temperature 54°; Sydney, W.N.W., 25, cloudy and dull all day, smooth sea, temperature 60°; Newcastle, N.W., 42, dull, smooth sea, temperature 63°; Port Macquarie, calm, fine but cloudy, smooth sea, temperature 66°; Clarence River, N.W., 14, [illegible] smooth sea, temperature 70°; Walgett, calm, fine, and clear, temperature 67°; Dubbo, W., 28, fine but cloudy, temperature 62°; Goulburn, N.W., 14, dull, temperature 58°.

Queensland.—Cooktown, S.E., 13, showery, temperature [illegible]; Normanton, S.E., 8, overcast and sultry, temperature 78°; Townsville, S.E., 8, overcast, temperature 70°; Mackay, S.E., 18, overcast and dull; Rockhampton, S.E., 8, overcast, temperature [illegible]; Roma, N.W., 8, fine and clear, temperature 70°; Cape Moreton, W., 8, fine and clear, temperature 71°; Brisbane, W., 8, [illegible] fine, temperature 73°.

HEIGHT OF RIVERS ABOVE SUMMER LEVEL.

Macintyre: At Mungindi, low. Barwon: At Mogil Mogil, [illegible]; at Walgett, 5 feet 6 inches. Namoi: At Walgett, 2 feet [illegible] inches. Culgoa: At Goodooga, 2 feet. Darling: At Brewarrina, 2 [illegible] inches; at Bourke, 6 feet 2 inches; at Louth, 6 feet 3 inches; at Tilpa, 11 feet; at Wilcannia, 16 feet 10 inches; at Menindie, 27 feet; at Pooncarie, 23 feet 8 inches; at Wentworth, 12 [illegible] 6 inches. Murrumbidgee: At Gundagai, 3 feet 6 inches; at Wagga, 3 feet; at Hay, 2 feet 6 inches; at Balranald, 7 feet [illegible] inch. Murray: At Albury, 1 foot 9 inches; at Euston, 6 feet 4 inches.

ASTRONOMICAL MEMORANDA FOR MAY 24.

Sun rises at 6.53, sets at 5.0; Moon, 7.49 a.m., 6.5 p.m.; Mercury, 6.35 a.m., 4.49 p.m.; Venus, 9.59 a.m., 7.36 p.m.; Mars, 6.19 a.m., 4.35 p.m.; Jupiter, 3.9 p.m., 4.4 a.m.; Saturn, 10.2[illegible] a.m., 8.21 p.m. Full moon, 8th; new moon, 23rd.

High water at Fort Denison, May 24: 9.[illegible] a.m., 9.[illegible] p.m.

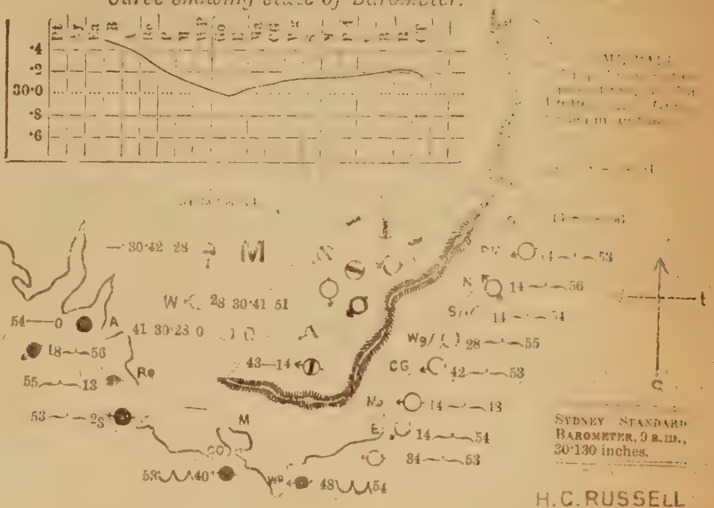
H. A. LENEHAN,
Acting Government Astronomer.

SYDNEY OBSERVATORY

Latitude 33° 51' 41" S. Longitude ...

Stations.	Weather	Max	Min	Rain
Albury	g	57	39	0·07
Armidale	g	55	41	0
Balranald	b	61	36	0·05
Bathurst	b	54	40	[illegible]
Bendemeer	c	59	3[illegible]	[illegible]
Bodalla	[illegible]	[illegible]	[illegible]	[illegible]
Bourke	u	73	5[illegible]	0
Buncarra	u	[illegible]	[illegible]	[illegible]
C'md'n H.	b	[illegible]	[illegible]	0
C. St. Geo.	b	67	[illegible]	0
Carcoar	g	50	[illegible]	[illegible]
Casino	b	7[illegible]	[illegible]	0
Cassilis	c	[illegible]	[illegible]	0
Clarence	b	70	5[illegible]	0
C'nd'b'lin	u	6[illegible]	[illegible]	0
Cooma	u	[illegible]	[illegible]	0
Coonab'n	g	6[illegible]	[illegible]	0
Cowra	b	58	[illegible]	0
Cudg'llico	b	71	46	0
Deniliq'n	b	66	37	0
Dubbo	u	6[illegible]	[illegible]	0
Eden	b	57	[illegible]	[illegible]
Euston	u	6[illegible]	[illegible]	[illegible]
Forbes	b	[illegible]	52	0
Glen Inn's	b	59	32	0
Goulburn	b	[illegible]	[illegible]	0
EUCLA				
Grafton	b	76	43	0
Gulgong	b	60	38	0
Gunned'h	c	64	43	0
Hay	b	62	41	0
Inverell	b	52	29	0
Kiandra	o	40	30	0·57
Lismore	b	75	42	0
Maitland	b	64	52	0
Marsdens	b	62	51	0
Menindie	g	68	52	0
Molong	b	50	35	0·06
M'r'ng'r'll	b	62	43	0·16
Moree	b	74	37	0
Moruya	b	69	43	0
Moss Vale	b	55	47	0·02
Mt. Hope	b	66	48	0
M. Vict'ria	b	51	39	0
Mudgee	b	63	34	0
M'rr'mb'h	b	59	42	0
M'rr'r'ndi	b	59	45	0
Mus'lbr'k	b	66	44	0
Narrabri	g	66	40	0
Newcastle	b	65	52	0
Orange	c	50	42	0·17
Picton	b	62	46	0
P. M'q'rie	b	66	43	0
P. St'ph'n	b	65	46	0
Q'nbeyan	b	63	40	0
Quirindi	b	77	42	0
Singleton	b	65	57	0
SYDNEY	b	61	51	0
Tamw'rth	—	—	—	—
Taralga	b	51	40	0
Taree	b	70	45	0
T'nt'rfield	b	61	47	0
Wagga	b	59	32	0·10
Walcha	g	45	30	0
Walgett	g	—	47	0
Warrah	b	62	—	0
W'ntw'rth	o	67	50	0
W'll'ng'ng	b	64	55	0
Young	b	59	41	0·04

Curve showing state of Barometer.



H. C. RUSSELL
GOVERNMENT ASTRONOMER

NOTES EXPLANATORY OF MAP.

In the list of stations the column headed W. r. gives the state of the weather at 9 a.m., b standing for blue sky; c, detached clouds; d, drizzling rain; f, fog; g, gloomy; h, hazy; m, misty; r, frosty; o, overcast; p, passing showers; r, rain; s, snow; t, thunder; u, threatening. The next column, Max gives the maximum temperature for previous 24 hours. Min the corresponding minimum temperature; Rn, the rain for the previous 24 hours. The symbols used in the map are explained on the margin. At each coast station the wind symbol is placed like a vane pointing to the direction from which the wind is coming. A clear circle with it means fine weather; a circle with bar, cloudy weather; and a black spot, raining. Next to this symbol are placed figures denoting the number of miles the wind is moving per hour; next, a symbol showing the state of the sea; and, lastly, figures denoting the shade temperature at 9 a.m. The barometer curve shews the state of barometers round the coast from Perth to Cooktown:- Pt, Perth; Ay, Albany; Eu, Eucla; CB, Cape Borda; A, Adelaide; Re, Robe; P, Portland, M, Melbourne; WP, Wilson's Promontory; Go, Gabo; E, Eden; Ma, Moruya; CG Jervis Bay, Wg, Wollongong; S, Sydney; N, Newcastle; PM, Port Macquarie; C, Clarence River; B, Brisbane; R, Rockhampton; Ct, Cooktown. Inland the state of barometer is given in figures at Albury, Deniliquin, Wentworth, Menindie, Bourke, and Alice Springs. The barometer curve enables one at a glance to trace the depressions, beginning with Western Australia, and passing along eastwards; northerly winds preceding them, and southerly following.

The rainfall on Sundays or holidays, when this map is not published, is in all cases included in the quantities shown by the next following map.

9 A.M. OBSERVATIONS.

Western Australia.—Yesterday's report: Fine along the west coast, with light easterly winds; overcast, with misty rain in south parts, and north to west winds; the sea moderate. Rainfall: Albany and Esperance Bay, 0·05; Eucla, 0·04 inch. No reports to-day. Extremes of barometers and temperature: Perth, 30·47 and 48°; Cossack, 30·11; and Carnarvon, 77°.

South Australia.—Generally overcast and unsettled south of Peake, with misty rain along the coast; light S. W. winds and calms, risen barometers, and moderate sea. Rain has fallen south of Beltana, heaviest at Crafers, 0·44 inch; Stockport, 0·06; Melrose 0·25; Auburn, 0·22; Woodside, 0·20 inch; and other stations smaller quantities. Extremes of barometers and temperature: Cape Borda, 30·46; Port Darwin, 30·08 and 78°; M'Donnell Bay, 54°.

Victoria.—Showers of misty rain passing along the coast, with strong westerly winds and rough sea; fine but cloudy and unsettled inland. Barometers have risen. Cape Schanck, 0·33 inch rain; from other stations the rain records are below 0·10 inch. Extremes of barometers and temperature:—Horsham, 30·30 and 58°; Lakes Entrance and Wilson's Promontory, 30·03; Omeo, 40°.

Tasmania.—Low Heads, fine, with fresh N.W. wind; barometer, 29·88; and temperature 54°. Hobart, fine, with light W. wind; barometers, 29·71; temperature, 48°; and rainfall, 0·07 inch. No reports from other parts.

New South Wales.—Generally fine and pleasant, but more or less cloudy in W. and S.W. parts, and at places gloomy and threatening. Winds generally are light from N.W. to SW., barometers risen, and the sea smooth. During the previous 24 hours light rain fell at scattered places in south parts, chiefly near the coast and ranges, and heaviest (0·57 inch) at Kiandra. Extra stations: Hill End and Gabo Island, 0·05 inch rain fallen. Extremes of barometers and temperature: Menindie, 30·42; Gabo Island, 29·95; Newcastle, 56°; and Cooma, 25°. For further particulars see map.

Queensland.—Generally fine and cool, and in central parts cloudy; light S.E. winds in north; westerly in south parts; barometers risen, and the sea moderate. Rainfall: Cooktown, 0·25 inch. Reports incomplete. Extremes of barometers and temperature: Normanton, 30·26; Brisbane, 30·19 and 51°; Cooktown, 81°.

3 P.M. OBSERVATIONS.

Victoria.—Portland, W., squally and showery; Cape Otway, gales, squally and showery; Cape Schanck, W.N.W., overcast, squally, and showery; Wilson's Promontory, overcast, squally, and showery; Lakes Entrance, W., cloudy and fine.

New South Wales.—Sydney, W.S.W., 8, fine and pleasant, smooth sea, temperature 60°.

HEIGHT OF RIVERS ABOVE SUMMER LEVEL.

Macintyre: At Mungindi, low. Barwon: At Mogil Mogil, low; at Walgett, 5 feet 2 inches. Namoi: At Walgett, 2 feet 6 inches Culgoa: At Goodooga, 2 feet. Darling: At Brewarrina, 1 foot 6 inches; at Bourke, 5 feet 10 inches; at Louth, 6 feet 3 inches; at Tilpa, 10 feet 6 inches; at Wilcannia, 11 feet 6 inches; at Menindie, 26 feet 10 inches; at Pooncarie, 23 feet 8 inches; at Wentworth, 12 feet 5 inches. Murrumbidgee: At Gundagai, 3 feet 6 inches; at Wagga, 2 feet 9 inches; at Hay, 2 feet 4 inches; at Balranald, 7 feet 1 inch. Murray: At Albury, 1 foot 9 inches; at Euston, 6 feet 2 inches.

ASTRONOMICAL MEMORANDA FOR MAY 25.

Sun rises at 6.53, sets at 5.0; Moon, 8.45 a.m., 6.53 p.m.; Mercury, 6.41 a.m., 4.51 p.m.; Venus, 10.0 a.m., 7.37 p.m.; Mars, 6.19 a.m., 4.33 p.m.; Jupiter, 3.5 p.m., 4.0 a.m.; Saturn, 10.19 a.m., 8.17 p.m. Full moon, 8th; new moon, 23rd. **High water at Fort Denison, May 25: 9.43 a.m., 10.2 p.m.**

H. A. LENEHAN,
Acting Government Astronomer.

Station	W.	Max. Min.	Rain
[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	n	55 31	0
[illegible]	g	[illegible]	0
[illegible]	f	55 29	0·01
[illegible]	n	58 25	0
[illegible]	b	[illegible]	0
Bourke	b	[illegible]	0
Buncurra	b	[illegible]	0
C'n'l'n H.	b	[illegible]	0
C. St. Geo.	b	67 4[illegible]	0
Carcoar	g	[illegible]	0
Casino	b	7[illegible] 41	0
[illegible]	n	[illegible]	0
Clarence	b	[illegible]	0
Cnd'b'in	n	[illegible]	0
Cooma	f	62 2[illegible]	0
Coonab'n	n	[illegible]	0
Cowra	g	[illegible]	0
[illegible]	n	70 [illegible]	0
Deniliq'n	[illegible]	[illegible]	0
Dubbo	b	61 2[illegible]	0
Eden	b	67 44	0
Euston	g	60 46	0
Forbes	g	[illegible]	0
Glen Inn's	b	60 3[illegible]	0
Goulburn	g	[illegible]	0
Grafton	b	7[illegible] 46	0
Gulgong	b	[illegible]	0
Gunned'h	b	64 36	0
Hay	c	62 41	0
Inverell	n	52 31	0
Kiandra	n	49 20	0
Lismore	b	76 47	0
Maitland	b	67 43	0
Marsdens	g	62 50	0
Menindie	c	59 51	0
Molong	g	39 29	0
M'r'ng'r'll	c	60 43	0
Moree	b	77 39	0
Moruya	b	67 35	0
Moss Vale	n	52 38	0
Mt. [illegible]	[illegible]	[illegible]	0
Mt. Victoria	[illegible]	[illegible]	0

Station	W.	Max. Min.	Rain
Mudgee	n	80 25	0
M'r'mb'h	u	62 28	0
M'rr'ndi	n	59 39	0
Mus'lbr'k	b	67 40	0
Narrabri	b	63 36	0
Newcastle	b	71 46	0
Orange	n	49 36	0
Picton	n	61 38	0
P. M'q'rie	b	67 45	0
P. St'ph'n	b	63 43	0
Q'abeyan	f	61 39	0
Quirindi	n	66 37	0
Singleton	b	65 46	0
Sydney	b	61 47	0
Tamw'rth	n	62 30	0
Tiralga	f	59 40	0
Taree	b	69 40	0
T'nt'rfield	b	63 30	0
Wagga	b	56 37	0
Walcha	f	15 24	0
Walgett	b	— 40	0
Warrah	n	65 —	0
W'ntw'rth	c	60 50	0
W'll'ng'ng	b	70 48	0
Young	g	75 42	0

SYDNEY OBSERVATORY.

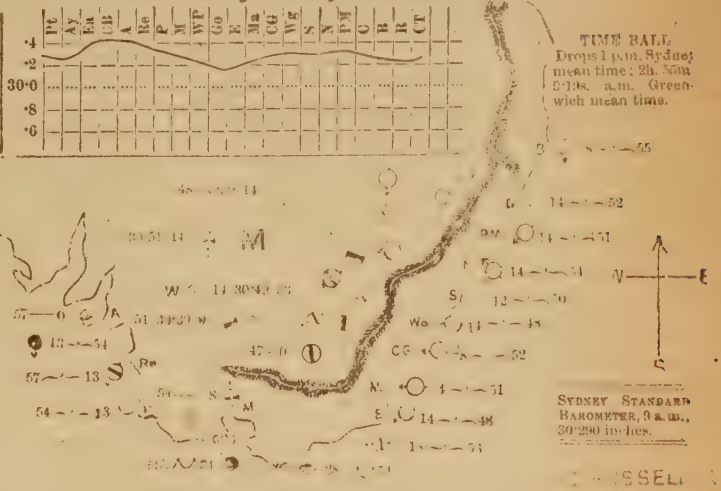
LATITUDE 33° 51' 41" S. LONGITUDE 10h. 4m. 49·54 E.
MAGNETIC VARIATION, 9° 35' 37" E.

Average Annual Rainfall for 28 years........ [illegible]
Average for 29 years from Jan. 1 to April 30 1887 [illegible]
Total Rainfall from Jan. 1. to May 25 1887 ...... 23·120
Barometers corrected to 32° Fah. and Mean Sea Level

Fine, wind S. — Cloudy, wind E.
T. storm, wind S. — Rain, wind W.
If it is CALM, the symbol used without the arrow
Smooth sea.
Heavy sea
Very heavy sea.

13 30·18 55

Curve showing state of Barometer.



NOTES EXPLANATORY OF MAP.

In the list of stations the column headed W. 1. gives the state of the weather at 9 a.m., b standing for blue sky; c, detached clouds; d, drizzling rain; f, fog; g, gloomy; h, hazy; m, misty; n, frosty; o, overcast; p, passing showers; r, rain; s, snow; t, thunder; u, threatening. The next column, Mx gives the maximum temperature for previous 24 hours. Mn the corresponding minimum temperature; Rn, the rain for the previous 24 hours. The symbols used in the map are explained on the margin. At each coast station the wind symbol is placed like a vane pointing to the direction from which the wind is coming. A clear circle with it means fine weather; a circle with bar, cloudy weather; and a black spot, raining. Next to this symbol are placed figures denoting the number of miles the wind is moving per hour; next, a symbol showing the state of the sea; and, lastly, figures denoting the shade temperature at 9 a.m. The barometer curve shows the state of barometers round the coast from Perth to Cooktown:- Pt, Perth, Ay, Albany, Ea, Eucla, CB, Cape Borda; A, Adelaide; Re, Robe; P, Portland; M, Melbourne; WP, Wilson's Promontory; Go, Gabo; E, Eden; Ma, Moruya; CG Jervis Bay; Wg, Wollongong, S, Sydney; N, Newcastle PM, Port Macquarie; C, Clarence River E, Brisbane; R, Rockhampton; Ct, Cooktown. Inland the state of barometer is given in figures at Albury, Deniliquin, Wentworth Menindie, Bourke, and Alice Springs. The barometer curve enables one at a glance to trace the depressions, beginning with Western Australia, and passing along eastwards; northerly winds preceding them, and southerly following.

The rainfall on Sundays or holidays, when this map is not published, is in all cases included in the quantities shown by the next following map.

9 A.M. OBSERVATIONS.

West. Australia.—Generally fine, with light W. to E. winds and calms, fallen barometers, and smooth to moderate sea. Rainfall: Albany, 0·17, and Eucla, 0·03 inches. Extremes of barometers and temperature: Perth, 30·26; Ashburton, 30·09; Esperance Bay, 44·; and Carnarvon, 73·.

South Australia.—Generally overcast and gloomy, with light S.W. winds and calms, risen barometers, and moderate sea. Light rains have fallen south of Burra generally, from 0·02 to 0·10 inch, but a Elliston 0·14, and Echunga 0·12 inch. Extremes of barometers and temperature: Port Augusta, 30·44; Port Darwin, 30·06 and 81·; Cape Northumberland, 53.

Victoria.—Generally cloudy and unsettled, with passing showers of light rain at places; light to fresh N. to W. winds, risen barometers, and moderate to rather rough sea; squally in the straits. Rainfall: Wilson's Promontory, 0·18; Cape Otway, 0·11; and Melbourne, 0·10 inches. Extremes of barometers and temperature: Ballarat, 30·37; Lakes entrance, 30·13; Cape Schanck, 57·; and Omeo, 41·.

Tasmania.—Fine in N.E. and E parts; misty rain falling at Circular Heads; light N. to W. winds, risen barometers, and smooth to moderate sea. Extremes of barometers and temperature: Circular Heads, 30·14 and 53·; Hobart, 29·92; and Falmouth, 56·.

New Zealand.—Fine in extreme north and south parts, with S.W. winds, strong and squally at the former. Heavy showers from N.W. at Wellington, 0·15 inch fallen. Showery and rough sea on the west coast. Barometers: In north, 29·9; over centre, 29.6; and in south, 29·7.

New South Wales.—Fine in north parts and along the coast; cloudy, gloomy, and unsettled in the southern half of the colony; foggy and frosty along the ranges. Winds light, variable, inland, and westerly on the coast. The sea smooth. Bathurst, with 0·01 inch, is the only station reporting rain fallen during the previous 24 hours. Extremes of barometers and temperature: Menindie, 30·51; Gabo Island, 30·13 and 56·; Cooma, 32·. For farther particulars see map.

Queensland.—Fine and cool in south parts, with light S. to S.E. winds, risen barometers, and moderate sea. No reports from north parts. Extremes of barometers and temperature: Townsville, 30·27 and 65·; Rockhampton, 30·22, and Roma, 51·.

3 P.M. OBSERVATIONS.

Victoria.—Portland, W., 13, overcast. sea smooth, temperature 57·; Melbourne, S.W., 8, cloudy and showery, temperature 56·; Cape Schanck, W.S.W., 23, overcast and misty, sea moderate; Wilson's Promontory, W.N.W., 28, misty rain, and sea rough, temperature 54·; Lakes Entrance, W., 23, cloudy, temperature 62·.

New South Wales.—Wentworth, W., overcast and dull, temperature 53·; Deniliquin, S.W, dull and cold, temperature 61·; Eden, calm, fine, sea smooth, temperature 61·; Moruya, N.E., 17, fine, sea smooth, temperature 61·; Cape St. George, S., 14, fine, sea smooth, temperature 62·; Sydney, W., 6, fine, with thick haze, sea smooth, temperature 60·; Newcastle, N.W., 14, fine, sea smooth, temperature 66·; Port Macquarie, S.E., 28, fine, sea smooth, temperature 69·; Clarence River, S., fine but cloudy, sea smooth, temperature 68·; Walgett, calm, fine, temperature 62·; Dubbo, S., fine, temperature 60·; Goulburn, calm, fine, temperature 59·.

Queensland.—Cooktown, S.E., 13, fine, clear, sea rough, temperature 73·; Normanton, S.E., fine but cloudy, temperature 93·; Townsville, S.E., 11, fine and clear, temperature 72·; Mackay, S.E., 23, fine; Rockhampton, E.S.E., 13, cloudy, temperature 70·; Roma, S., 8, hazy, temperature 65·; Cape Moreton, S.S.E., 23, cloudy, temperature 68·; Brisbane, E., 8, cloudy, temperature 70·.

HEIGHTS OF RIVERS ABOVE SUMMER LEVEL.

Macintyre: At Mungindi, low. Barwon: At Mogil Mogil, low; at Walgett, 4 feet 10 inches. Namoi: At Walgett, 2 feet 6 inches. Culgoa: At Goodooga, low. Darling: At Brewarrina, 1 foot 3 inches; at Bourke, 5 feet 7 inches; at Louth, 6 feet; at Tilpa, 10 feet 2 inches; at Wilcannia, 13 feet 8 inches; at Menindie, 26 feet 9 inches; at Pooncarie, 23 feet 8 inches; at Wentworth, 12 feet 5 inches. Murrumbidgee: At Gundagai, 3 feet; at Wagga, 2 feet 9 inches; at Hay, 2 feet 6 inches; at Balranald, 6 feet 10 inches. Murray: At Albury, 1 foot 9 inches; at Euston, 6 feet.

ASTRONOMICAL MEMORANDA FOR MAY 26.

Sun rises at 6.54, sets at 5.0; Moon, 9.10 a.m., 7.46 p.m.; Mercury, 6.47 a.m., 4.53 p.m.; Venus, 10.1 a.m., 7.38 p.m.; Mars, 6.18., 4.31 p.m.; Jupiter, 3.1 p.m., 3.56 a.m.; Saturn, 10.16 a.m., 8.14 p.m. Full moon, 8th; new moon, 23rd.

High water at Fort Denison, May 26: 10.23 a.m., 10.43 p.m.

H. A. LENEHAN,
Acting Government Astronomer.

Albury ..	b	62	31	0
Armidale	r	57	47	0·01
Balranald	h	72	32	0
Bathurst	f	64	29	0
Bendem'r	c	61	40	0
Bodalla ..	g	67	41	0
Bourke ..	c	72	46	0
Buncarra	r	—	43	0·11
C'md'n H.	r	66	53	0
C. St. Geo.	c	65	53	0
Carcoar ..	h	55	33	0
Casino ..	r	64	49	0·84
Cassilis ..	c	56	37	0
Clarence .	r	68	59	0·17
C'nd'b'lin	b	67	45	0
Cooma ..	c	62	35	0
Coonab'n.	g	70	39	0
Cowra ..	n	63	38	0
Gudg'llico	b	73	44	0
Deniliq'n.	b	70	40	0
Dubbo ..	b	70	43	0
Eden	b	63	54	0
Euston ..	b	79	30	0
Forbes ..	g	—	56	0
Glen Inn's	r	61	43	0·02
Goulburn	g	60	29	0
Grafton ..	n	70	52	0
Gulgong .	b	60	38	0
Gunned'h	c	63	47	0
Hay ..	b	65	41	0
Inverell ..	r	52	39	0
Kiandra ..	n	57	30	0
Lismore .	r	63	57	0·97
Maitland .	n	64	43	0
Marsdens.	b	70	45	0
Menindie.	b	62	46	0
Molong ..	b	42	29	0
M'r'ng'r'll	b	64	40	0
Moree ..	r	71	50	0·18
Meruya ..	g	66	52	0
Moss Vale	u	57	49	0
Mt. Hope	b	74	46	0
M. Vict'ria	f	56	43	0·04
Mudgee ..	n	72	38	0
M'rr'mb'h	b	68	35	0
M'rr'r'ndi	f	57	42	0
Mus'lbr'k	o	65	37	0
Narrabri	g	70	46	0·06
Newcastle	r	66	43	0·75
Orange ..	c	54	46	0
Picton ..	g	62	41	0
P. M'q'rie	r	68	57	0·15
P. St'ph'n	f	63	42	0·09
Q'nbeyan	b	56	33	0
Quirindi	u	70	43	0
Singleton	u	64	45	0
SYDNEY ..	o	63	53	0·09
Tamw'rth	g	68	36	0
Taralga ..	c	63	50	0
Taree	g	69	50	0·02
T'nt'rfield	u	64	45	0
Wagga ..	b	63	26	0
Walcha ..	b	59	28	0
Walgett	n	—	45	0
Warrah ..	g	66	—	0
W'ntw'rth	b	60	39	0
W'll'ng'ng	c	70	58	0
Young ..	b	78	39	0

SYDNEY OBSERVATORY.

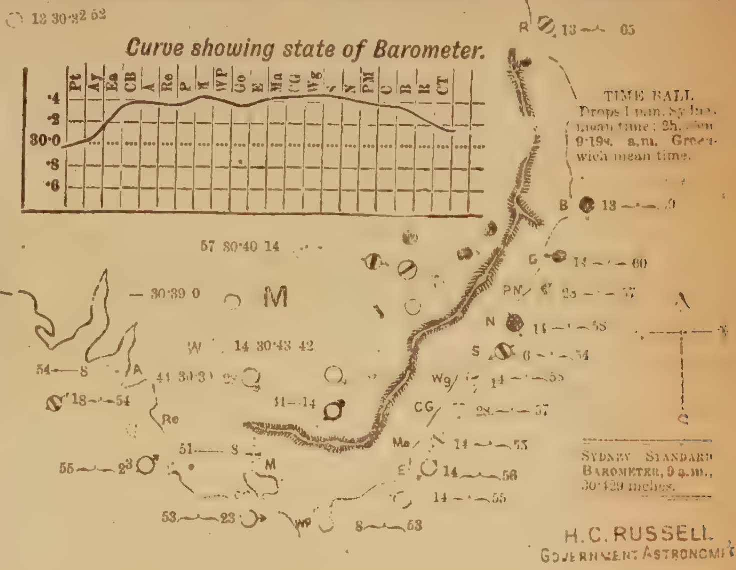
LATITUDE 33° 51' 41" S. LONGITUDE 10h. 4m. 50·81s. E.

MAGNETIC VARIATION, 9° 35' 37" E.

Average Annual Rainfall for 28 years .... 49·487
Average for 29 years from Jan. 1 to April 30 1887 .. 20·374
Total Rainfall from Jan. 1, to May 27 1887 ...... 23·273

Barometers corrected to 32° Fah. and Mean Sea Level

wind N. wind E. T. storm, wind S. Rain, wind W. If it is CALM, the symbol used without the arrow. Smooth sea. Heavy sea. Very heavy sea.



NOTES EXPLANATORY OF MAP.

In the list of stations the column headed W. .. gives the state of the weather at 9 a.m., b standing for blue sky; c, detached clouds; d, drizzling rain; f, fog; g, gloomy; h, hazy; m, misty; n, frosty; o, overcast; p, passing showers; r, rain; s, snow; t, thunder; u, threatening. The next column, Mx gives the maximum temperature for previous 24 hours. Mn the corresponding minimum temperature; Rn, the rain for the previous 24 hours. The symbols used in the map are explained on the margin. At each coast station the wind symbol is placed like a vane pointing to the direction from which the wind is coming. A clear circle with it means fine weather; a circle with bar, cloudy weather; and a black spot, raining. Next to this symbol are placed figures denoting the number of miles the wind is moving per hour; next, a symbol showing the state of the sea; and, lastly, figures denoting the shade temperature at 9 a.m.. The barometer curve shows the state of barometers round the coast from Perth to Cooktown: Pt, Perth; Ay, Albany; Ea, Eucla; CB, Cape Borda; A, Adelaide; Re, Robe; P, Portland; M, Melbourne; WP, Wilson's Promontory; Go, Gabo; E, Eden; Ma, Moruya; CG Jervis Bay; Wg, Wollongong; S, Sydney; N, Newcastle; PM, Port Macquarie; C, Clarence River; B, Brisbane; R, Rockhampton; CT, Cooktown. Inland the state of barometer is given in figures at Albury, Deniliquin, Wentworth, Menindie, Bourke, and Alice Springs. The barometer curve enables one at a glance to trace the depressions, beginning with Western Australia, and passing along eastwards; northerly winds preceding them, and southerly following.

The rainfall on Sundays or holidays, when this map is not published, is in all cases included in the quantities shown by the next following map.

9 A.M. OBSERVATIONS.

Western Australia.—Generally more or less cloudy, and at places threatening, with light rain falling at Cossack; light variable winds, fallen barometers, and moderate sea. Rainfall: Cossack, 0·22 inch. Extremes of barometers and temperature: Esperance Bay, 30·08; Cossack, 29·90; Carnarvon, 71°; and Perth, 47°.

South Australia.—Generally fine and pleasant, with scattered clouds on the coast east of Cape Borda and on the ranges; light N.E. to S.E. winds and calms, slightly fallen barometers, and smooth sea; in Northern Territory cloudy, with S.E. winds. Extremes of barometers and temperature: Adelaide, 30·39; Port Darwin, 30·01 and 80°; Alice Springs, 52°.

Victoria.—Generally fine, with clouds at scattered places; light N. to E. winds, steady barometers, and smooth to moderate sea. Rainfall: Cape Schanck, 0·18; between Portland and Cape Northumberland, from 0·02 to 0·05 inches. Extremes of barometers and temperature: Omeo, 30·46 and 43°; Lakes' Entrance, 30·37; and Cape Schnack, 57°.

Tasmania.—Generally fine but cloudy, with light S.E. to S. winds, but chiefly calms, risen barometers, and smooth sea. Rainfall: Hobart, 0·01 inch. Extremes of barometers and temperature: Low Heads, 30·47 and 48°; Falmouth, 30·43 and 50°.

New Zealand.—Generally fine, with S. to S.W. winds. Barometers: In North, 30·1; over centre, 30·0: and in South, 29·9.

New South Wales.—Fine in W. and S.W. parts, cloudy, gloomy, and threatening in N. and E.; raining more or less heavily in north coast and mountain districts. Winds light, S. to S.W. on coast, N.E. to S.E. inland; the sea smooth to moderate. During the previous 24 hours light rains fell along coast, north of Sydney, and in the New England and Gwydir districts; heaviest on the Richmond, where from 0·84 to 0·97 inch fell. At Sydney the rain set in about midnight, but very light; from 3 a.m. to 8 a.m. moderate showers fell. Extremes of barometers and temperature: Wollongong, 30·45. Gabo Island, 30·33; Newcastle, 58°; and Kiandra, 39°. For further particulars see map.

Queensland.—Fine in S.W. parts; over the remainder of the colony cloudy, gloomy and threatening, with misty rain falling at Brisbane and Townsville; light to fresh N.E. to S.E. winds, and smooth to moderate sea. Rainfall: Cape Moreton, 1·63; Brisbane, 0·55; and Mackay, 0·09 inches. Extremes of barometers and temperature: Brisbane, 30·30; Cooktown, 30·10 and 79°; Roma, 62°.

3 P.M. OBSERVATIONS.

Victoria.—Portland, N.E., 18, overcast, slight sea, temperature 55°; Cape Otway, E., 28, fine, slight sea, temperature 59°, Melbourne, S.S.W., 13, fine and hazy, temperature 54°; Cape Schanck, E., 13, fine but cloudy, moderate sea, temperature 58°; Wilson's Promontory, N.E., 13, fine but cloudy, smooth sea, temperature 55°; Lakes' Entrance, S.E., 13, fine but cloudy, temperature 58°.

New South Wales.—Menindie, calm, fine, temperature 60°; Wentworth, S., 14, fine, temperature 53°; Deniliquin, S., 14, fine, temperature 68°; Eden, S.E., 14, fine, smooth sea, temperature 61°, Moruya, S., 28, fine, smooth sea, temperature 63°; Cape St. George, S., 42, showery, smooth sea, temperature 62°; Sydney, S.S.W., 9, raining lightly, smooth sea, temperature 58°; Newcastle, calm, cloudy, smooth sea, temperature 60°; Port Macquarie, S., 28, unsettled, smooth sea, temperature 5[illegible]; Walgett, E.N.E., cloudy, temperature 64°; Dubbo, N.E., 14, fine but cloudy, temperature 66°; Goulburn, calm, dull, temperature 60°.

Queensland.—Townsville, S.E., 13, misty rain, temperature 71°; Mackay, S.E., 18, overcast and dull; Rockhampton, E., 13, cloudy and showery, temperature 69°; Roma, N.E., 8, fine and clear, temperature 68°; Cape Moreton, E., 28, overcast, temperature 64°; Brisbane, S., 13, overcast and light rain, temperature 65°; Hughenden, N.E., 28, thraatening.

HEIGHT OF RIVERS ABOVE SUMMER LEVEL.

Macintyre: At Mungindi, low. Barwon: At Mogil Mogil, low; at Walgett, 4 feet 4 inches. Namoi: At Walgett, 2 feet 6 inches. Culgoa: At Goodooga, low. Darling: At Brewarrina, low; at Bourke, 4 feet 11 inches; at Louth, 5 feet 9 inches; at Tilpa, 9 feet 5 inches; at Wilcannia, 12 feet 8 inches; at Menindie, 26 feet 7 inches; at Pooncarie, 23 feet 2 inches; at Wentworth, 12 feet 4 inches. Murrumbidgee: At Gundagai, 3 feet 6 inches; at Wagga, 2 feet 9 inches; at Hay, 2 feet 3 inches; at Balranald, 6 feet 6 inches. Murray: At Albury, 3 feet; at Euston, 5 feet 10 inches.

ASTRONOMICAL MEMORANDA FOR MAY 28.

Sun rises at 6.5 a.m., sets at 4.59 p.m.; Moon, 11.18 a.m., 9.46 p.m.; Mercury, 7 a.m., 4.58 p.m.; Venus, 10.3 a.m., 7.41 p.m.; Mars, 6.18 a.m., 4.28 p.m.; Jupiter, 2.53 p.m., 3.47 a.m.; Saturn, 10.9 a.m., 8.7 p.m. Full moon, 8th. New moon, 23rd.

High water at Fort Denison, 11.48 a.m., — p.m.

H. A. LENEHAN,
Acting Government Astronomer

Stations.	W.	[illegible]	[illegible]	[illegible]
Albury ..	b	[illegible]	40	0
Armidale	u	52	49	0·[illegible]
Balranald	b	74	[illegible]	0
Bathurst	c	63	[illegible]	0
Bendem'r	u	54	44	0·16
Bodalla ..	g	65	47	0
Bourke ..	b	75	50	[illegible]
Buncarra	c	—	51	0·3[illegible]
C'nd'n H.	c	[illegible]	[illegible]	0
C. St. Geo.	g	62	55	0
Carcoar ..	g	56	35	0
Casino ..	c	62	51	0·22
Cassilis ..	r	58	52	0
Clarence .	c	69	57	1·18
C'nd'b'lin	b	69	45	0
Cooma ..	c	62		0
Coonab'n.	g	65	47	0·05
Cowra ..	b	64	[illegible]	0
Cudg'llico	b	77	43	0
Deniliq'n.	b	72	39	0
Dubbo ...	c	67	49	0
Eden	r	62	50	0
Euston ..	u	77	37	0
Forbes ..	g	—	52	0
Glen Inn's	u	51	47	0·13
Goulburn	g	56	50	0·12

13— 1
EUCLA

G[illegible]on ..	n	73	55	0·0[illegible]
Gulgong ..	r	60	46	0·08
Gunned'h	c	[illegible]	52	0·67
Hay ...	c	[illegible]	46	0
Inverell ..	g	57	47	0·[illegible]
Kiandra ..	c	50	31	0
Lismore ..	b	62	58	0·41
Maitland .	r	65	52	0·03
Marsdens.	b	63	47	0
Menindie.	r	65	47	0
Molong ..	g	47	39	0
M'r'ng'r'll	o	62	41	0
Moree ..	g	59	50	0·46
Moruya ..	g	65	51	0
Moss Vale	r	53	40	0·13
Mt. Hope	b	71	48	0
M. Vict'ria	r	53	42	0·20

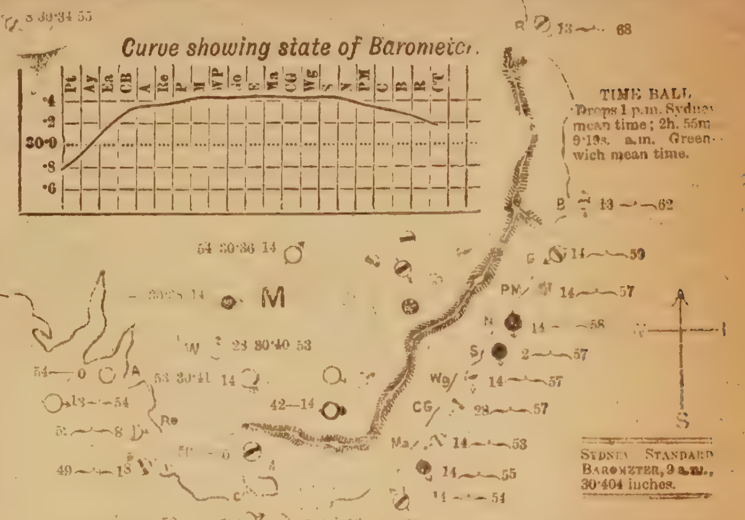
Mudgee ..	r	65	42	0·15
M'r'mb'h	b	58	39	0
M'r'r'ndi	g	57	47	0·[illegible]
Mu'lbi'k	r	66	47	0·10
Na[illegible]b	u	[illegible]	[illegible]	0·[illegible]
Newcastle	r	63	48	0·[illegible]
Orange ..	g	54	45	0
[illegible]n ..	u	60	49	0·[illegible]
P. M'q'rie	r	63	[illegible]	1·[illegible]
P. St'ph'n	r	[illegible]	5[illegible]	1·01
Q'nbeyan	c	61	40	0
Quirindi	c	69	47	0·10
Singleton	r	[illegible]	5[illegible]	0
SYDNEY ..	f	61	55	0·0[illegible]
Tamw'rth	—	—	—	—
Tar[illegible]ga ..	r	[illegible]	41	0
T[illegible]	u	[illegible]	55	0·[illegible]
T'nt'field	c	[illegible]	50	0·[illegible]
Wagga ..	b	[illegible]	34	0
Wa[illegible] ...	u	[illegible]	42	0·49
Walgett	u	—	[illegible]	0
Warr[illegible] ...	u	[illegible]	—	0
W'nt[illegible]	b	65	42	0
W'll'ng'ng	c	64	59	0·95
Young ..	b	73	44	0

SYDNEY OBSERVATORY.

LATITUDE 33° 51' 41" S. LONGITUDE 10h. 4m. 50·31s. E.
MAGNETIC VARIATION, 9° 35' 37" E.

Average Annual Rainfall for 28 years .... 49·151
Average for 29 years from Jan. 1 to April 30 1887 .. 20·374
Total Rainfall from Jan. 1, to May 28 1887 ...... 23·980
Barometers corrected to 32° Fah. and Mean Sea Level

Fine, wind N. — Cloudy wind E
T. storm, wind S. — Rain, wind W
If it is CALM, the symbol used without the arrow
Smooth sea.
Heavy sea.
Very heavy sea.



H. C. RUSSELL
GOVERNMENT ASTRONOMER.

NOTES EXPLANATORY OF MAP.

In the list of stations the column headed W. gives the state of the weather at 9 a.m., b standing for blue sky; c, detached clouds; d, drizzling rain; f, fog; g, gloomy; h, hazy; m, misty; [illegible], frosty; o, overcast; p, passing showers; r, rain; s, snow; t, thunder; u, threatening. The next column, Mx gives the maximum temperature for previous 24 hours. M'n the corresponding minimum temperature; R'n, the rain for the previous 24 hours. The symbols used on the map are explained on the margin. At each coast station the wind symbol is placed so as to point to the direction from which the wind is coming. A clear circle with it means fine weather; a circle with bar, cloudy weather; and a black spot, raining. Next to this symbol are placed figures denoting the number of miles the wind is moving per hour; next, a symbol showing the state of the sea; and, lastly, figures denoting the temperature at 9 a.m. The barometer curve shows the state of barometers round the coast from Perth to Cooktown:—Pt, Perth; Ay, Albany; Ea, Eucla; CB, Cape Borda; A, Adelaide; Re, Robe; P, Portland; M, Melbourne; WP, Wilson's Promontory; Go, Gabo; E, Eden; Ma, Moruya; CG Jervis Bay; Wg, Wollongong; S, Sydney; N, Newcastle; PM, Port Macquarie; C, Clarence River; B, Brisbane; R, Rockhampton; Ct, Cooktown. Inland the state of barometer is given in figures at Albury, Deniliquin, Wentworth, Menindie, Bourke, and Alice Springs. The barometer curve enables one at a glance to trace the depressions, beginning with Western Australia, and passing along eastwards; northerly winds preceding them, and southerly following.

The rainfall on Sundays or holidays, when this map is not published, is in all cases included in the quantities shown by the next following map.

9 A.M. OBSERVATIONS.

Western Australia.—Overcast, gloomy, and threatening along the west and south coasts, with light rain falling at Cossack; light to fresh N. to E. winds, fallen barometers, and the sea smooth, but rough off Cossack. Rainfall: Ashburton, 0·80; and Cossack, 0.19 inches. Extremes of barometers and temperature: Esperance Bay, 29·99; Albany, 29.77; Perth, 51°; and Carnarvon, 74°.

South Australia.—Generally fine and frosty, with scattered clouds in S.E. parts and in Northern Territory; very light E. to S.E. winds and calms, fallen barometers, and smooth sea; no rains reported. Extremes of barometers and temperature: Cape Northumberland, 30·39 and 47°.; Port Darwin, 30·05 and 78°.

Victoria.—Generally fine and cold, with clouds at places on the coast, light N. to E. winds, steady barometers, and smooth sea; foggy at Melbourne, misty and squally at places on the coast, heavy dew inland. Extremes of barometers and temperature: Cape Otway, 30·46; Hamilton, 30·35; Horsham, 58°; and Omeo, 33°.

Tasmania.—Generally more or less cloudy and unsettled, with light to fresh E. to S.E. winds in north, and calms along the east coast; showery at Falmouth, foggy at Hobart. Extremes of barometers and temperature: Southport, 36·56 and 45°; Circular Head, 30·45 and 55°.

New Zealand.—Generally fine but cloudy, with S.W. winds. Barometers: In extreme North and South, 30·1.; over centre, 30·0.

New South Wales.—West of a line connecting Walgett and Albury it is fine; to eastward cloudy, gloomy, and threatening, with more or less heavy rains falling in the districts between the Shoalhaven and Macleay rivers, and along the ranges west of these, winds were very light, generally from N.E. to S.E. inland, and on the coast S. to south-westerly, the sea smooth. During the previous 24 hours rain fell along the coast, and in the New England, Gwydir, and Liverpool Plains pastoral districts; but heaviest on the coast, where several scattered stations report over an inch fallen. At Sydney a heavy shower came in from S.E. between 9.30 and 10.30 a.m., during which time it deposited 0·75 inch rain. Extra stations: Cape St. George, 0·43, and Gabo Island, 0·05 inch rain. Rainfall measured at Sydney, 9 a.m., Sunday, May 29, 2·827 inches; and fell, up to 6.30 p.m., or during the day, 0·196 inch. Extremes of barometers and temperature: Eden, 30·43; Clarence, 30·29 and 59°; Kiandra and Albury, 42°. For further particulars see map.

Queensland.—In south parts cloudy and threatening, with thick showery weather and thunder at Cape Moreton; in N.E., fine; winds light to fresh from S.E. and E., and the sea smooth to moderate. Rainfall: Brisbane, 0·11; Thargomindah and Mackay, 0·02 inches. No reports from N.W. parts. Thunderstorms on south coast. Extremes of barometers and temperature: Brisbane, 30·26; Cooktown, 30·09, 81°; and Roma, 58°.

3 P.M. OBSERVATIONS.

Victoria.—Portland, E., 4, fine and clear, smooth sea, temperature 56°; Cape Otway, E.S.E., 23, fine and clear, smooth sea, temperature 57°; Wilson's Promontory, N.E., 18, cloudy and squally, high sea, temperature 60°.

New South Wales.—Menindie, calm, cloudy and fine, temperature 60°; Wentworth, E., cloudy and dull, temperature 51°; Deniliquin, calm, fine, temperature 65°; Eden, S.W., 14, cloudy and showery, smooth sea, temperature 60°, Moruya, S.W., 14, thick rain, smooth sea, temperature 60°; Cape St. George, S., 28, showery, smooth sea, temperature 62°; Sydney, S., raining, smooth sea; Newcastle, E., cloudy, moderate sea, temperature 59°; Port Macquarie, S.W., 14, cloudy and showery, smooth sea, temperature 64.; Clarence River, S., 14, showery, smooth sea, temperature 63°; Dubbo, N.E., 28, cloudy and raining, temperature 66°; Goulburn, N.E., 14, showery, temperature 62°.

Queensland.—Townsville, cloudy, temperature 76°; Rockhampton, N.E., 18, cloudy, temperature 73°; Roma, calm, cloudy, temperature 67°; Cape Moreton, S.E., 18, cloudy, temperature 63; Brisbane, cloudy and showery, temperature 63°; Hughenden, N.E., 8, cloudy and close.

HEIGHT OF RIVERS ABOVE SUMMER LEVEL.

Macintyre: At Mungindi, low. Barwon: At Mogil Mogil, low; at Walgett, 4 feet. Namoi: At Walgett, 2 feet. Culgoa: At Goodooga, low. Darling: At Brewarrina, low; at Bourke, 4 feet 9 inches; at Louth, 5 feet 7 inches; at Tilpa, 9 feet; at Wilcannia, 12 feet 10 inches; at Menindie, 26 feet 6 inches; at Pooncarie, 23 feet 9 inches; at Wentworth, 12 feet 3 inches. Murrumbidgee: At Gundagai, 3 feet 6 inches; at Wagga, 3 feet 3 inches; at Hay, 2 feet; at Balranald, 6 feet 6 inches. Murray: At Albury, 2 feet 7 inches; at Euston, 5 feet 9 inches.

ASTRONOMICAL MEMORANDA FOR MAY 30.

Sun rises at 6.56 a.m., sets at 4.58 p.m.; Moon, 12.44 p.m., 11.54 p.m.; Mercury, 7.10 a.m., 5.4 p.m.; Venus, 10.3 a.m., 7.45 p.m.; Mars, 6.17 a.m., 4.25 p.m.; Jupiter, 2.45 p.m., 3.39 a.m.; Saturn, 10.2 a.m., 8 p.m. Full moon, 8th. New moon, 23rd.

High water at Fort Denison, 12.59 a.m., 1.29 p.m.

H. A. LENEHAN,
Acting Government Astronomer.

Stations.	W	Mx	Mn	R
Albury ..	c	67	42	0·20
Armidale	u	57	49	0·05
Balranald	g	73	40	0
Bathurst	c	59	47	0·10
Bendem'r	u	67	42	0·02
Bodalla ..	r	66	48	0·65
Bourke ..	b	77	50	0
Bungarra	–	–	–	–
C'md'n H.	r	70	53	[illegible]
C. St. Geo.	c	62	55	4·2[illegible]
Carcoar ..	g	58	[illegible]	0
Casino ..	u	67	[illegible]	[illegible]
Cassilis ..	r	60	5[illegible]	0·20
Clarence ..	c	70	62	4·13
C'nd'b'lin	b	68	46	0
Cooma ..	c	56	42	0
Coonab'n.	b	68	37	0·04
Cowra ..	b	63	43	0
Cudg'llico	c	73	43	0
Deniliq'n.	g	86	47	0
Dubbo ..	b	70	42	0
Eden	b	60	56	0·10
Euston ..	c	75	45	0
Forbes ..	b	—	52	0
Glen Inn's	u	59	44	[illegible]·35
Goulburn	g	55	47	0·46
Grafton ..	r	74	53	0·99
Gulgong ..	u	60	33	0
Gunned'h	c	67	49	0
Hay	c	72	48	0
Inverell ..	u	68	40	0
Kiandra ..	g	47	37	0·42
Lismore ..	r	63	58	1·06
Maitland ..	r	60	55	0·51
Marsdens.	n	68	51	0
Menindie.	g	71	53	0·02
Molong ..	b	51	34	0
M'r'ng'r'li	b	61	46	0
Moree ..	b	82	45	0
Moruya ..	g	64	53	0·56
Moss Vale	r	54	50	0·99
Mt. Hope	u	75	48	0
M. Vict'ria	g	53	43	1·36
Mudgee ..	u	68	40	0·01
M'rr'mb'h	b	63	47	0·10
M'rr'r'ndi	f	58	49	0
Mus'lbr'k	c	64	52	0·19
Narrabri	b	71	42	0
Newcastle	c	64	48	2·98
Orange ..	c	55	45	0
Picton ..	u	59	51	1·14
P. M'q'r'e	r	61	56	3·10
P. St'ph'n	r	61	51	4·02
Q'nbey'n	c	66	40	0·50
Quirindi	u	68	52	0
Singleton	u	62	55	0·99
SYDNEY ..	r	61	56	3·78
Tamw'rth	g	65	45	0
Taralga ..	r	56	34	0·64
Taree	r	62	57	1·26
T'nt'rfield	u	67	52	0
Wagga ..	c	66	39	0
Walcha ..	r	50	42	0·44
Walgett	b	—	43	0
Warrah ..	r	67	—	0·10
W'ntw'rth	c	73	52	0·07
W'll'ng'ng	r	61	59	0·81
Young ..	b	63	47	0

SYDNEY OBSERVATORY.

LATITUDE 33° 51′ 41″ S. LONGITUDE 10h. 4m 50·31s. E.

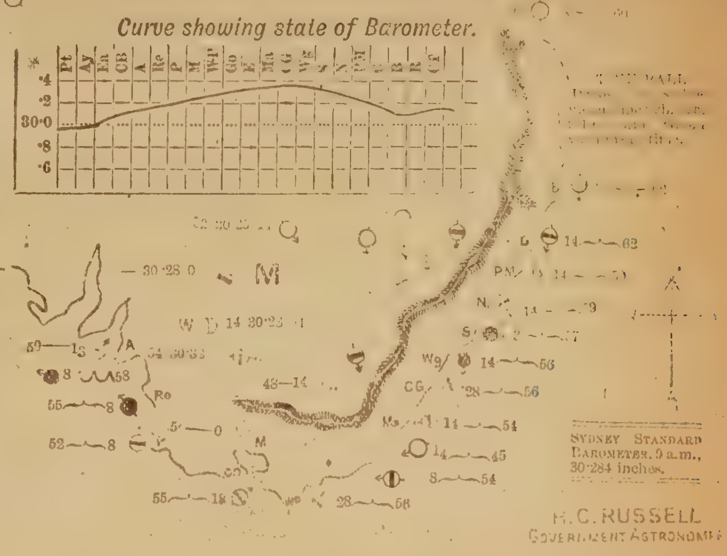
MAGNETIC VARIATION, 9° 35′ 37″ E.

Average [illegible]

Average [illegible]

Total Rainfall from Jan. 1, [illegible]

Barometers corrected [illegible]



NOTES EXPLANATORY OF MAP.

In the list of stations the column headed W. T. gives the state of the weather at 9 a.m., b starring for blue sky; c, detached clouds; d, drizzling rain; f, fog; g, gloomy; h, hazy; m, misty; n, frosty; o, overcast; p, passing showers; r, rain; s, snow; t, thunder; u, threatening. The next column, Mx gives the maximum temperature for previous 24 hours. Mn the corresponding minimum temperature; Rn, the rain for the previous 24 hours. The symbols used in the map are explained on the margin. At each coast station the wind symbol is placed like a vane pointing to the direction from which the wind is coming. A clear circle with it means fine weather; a circle with bar, cloudy weather; and a black spot, raining. Next to this symbol are placed figures denoting the number of miles the wind is moving per hour; next, a symbol showing the state of the sea; and, lastly, figures denoting the shade temperature at 9 a.m. The barometer curve shows the state of barometers round the coast from Perth to Cooktown: Pt, Perth; Ay, Albany; Eu, Eucla; CB, Cape Borda; A, Adelaide; Re, Robe; P, Portland; M, Melbourne; WP, Wilson's Promontory; Go, Gabo; E, Eden; Ma, Moruya; CG Jervis Bay; Wg, Wollongong; S, Sydney; N, Newcastle; PM, Port Macquarie; C, Clarence River; B, Brisbane; R, Rockhampton; Ct, Cooktown. Inland the state of barometer is given in figures at Albury, Deniliquin, Wentworth, Menindie, Bourke, and Alice Springs. The barometer curve enables one at a glance to trace the depressions, beginning with Western Australia, and passing along eastwards; northerly winds preceding them, and southerly following.

The rainfall on Sundays or holidays, when this map is not published, is in all cases included in the quantities shown by the next following map.

9 A.M. OBSERVATIONS.

Western Australia.—Threatening and unsettled generally, with light N.E. to N.W. winds, risen barometers, and smooth sea. Rainfall: Perth, 0·62; Cossack, 0·46; and Ashburton, 0·23 inches. Extremes of barometers and temperature: Eucla, 30·17; Albany, 29·87; Esperance Bay, 44·; and Carnarvon, 71·.

South Australia.—Generally overcast and unsettled south of Beltana, with light rain falling in parts; scattered clouds west of Port Lincoln and north of Beltana; light N.E. to N.W. winds and calms, fallen barometers, and moderate to rough sea. Rain fell south of Port Augusta, except in extreme S.E.; generally from 0·02 to 0·20 inches; Jervois 0·31, and Crafers 0·25 inches, being the heaviest. Extremes of barometers and temperature: Alice Springs, 30·27; Cape Borda, 30·07; M'Donnell Bay, 50·; and Port Darwin, 78·.

Victoria.—Generally more or less cloudy and unsettled, with light N. to E. winds, fallen barometers, and smooth sea. Rainfall: Ballarat, 0·11; Omeo, 0·09; Cape Schanck, 0·04; Melbourne, 0·02; and Wilson's Promontory, 0·01 inches. Extremes of barometers and temperature: Echuca, 30·34; Portland, 30·17; Horsham 58·, and Hamilton, 46·.

Tasmania.—Generally fine, with light to fresh N. to E. winds and calms; fallen barometers and the sea smooth, but rough off Circular Heads. A few points of rain fallen in north parts. Extremes of barometers and temperature: Falmouth, 30·38 and 45·; Circular Heads, 30·31 and 53·.

New Zealand.—Generally fine, with southerly winds, and barometers, 30·2; rough sea on the N. E. coast.

New South Wales.—Fine in central and N.W. parts; over the remainder of the colony, overcast, gloomy, and unsettled with light rain falling along the coast, and at places on the ranges. Winds, light variable, chiefly N.E. to S.E. and S.; the sea smooth to moderate. During the previous 48 hours rain fell generally in the eastern division, very heavy on and near the coast; three stations report over four inches, four over three inches, and eight over one inch. Of the Sydney rainfall, which was 3·78 for the 48 hours; 2·83 inches fell on Saturday and the following night. Extremes of barometers and temperature: Forbes, 30·35; Clarence, 30·14 and 62·; Cooma, 43·. Extra rainfall: Camden 1·15 and Bega 1·00 inches, during 48 hours; Lawrence, during last three days, 1·90 inches.

Queensland.—Generally fine, with scattered clouds in S.E. parts; light S. to S.E. winds, fallen barometers, and smooth to moderate sea. Rainfall: Rockhampton, 0·94; and Brisbane, 0·01 inches. No reports from N.W. parts. Extremes of barometers and temperature: Townsville, 30·17; Brisbane, 30·06; Roma, 50·; and Cooktown, 81·.

3 P.M. OBSERVATIONS.

Victoria.—Portland, E., 8, fine, but cloudy, smooth sea, temperature 62·; Cape Otway, E.N.E., 18, cloudy and unsettled, smooth sea, temperature 58·; Melbourne, S.S.W., overcast, temperature 62·; Cape Schanck, N.N.E., 13, fine, but cloudy, smooth sea, temperature 60·; Wilson's Promontory, N.E., 23, overcast and squally, temperature 57·; Lakes' Entrance, [illegible] S., fine, but cloudy, temperature 60·.

New South Wales.—Menindie, calm, fine, but cloudy, temperature 63·; Wentworth, W., 14, fine, temperature 56·; Deniliquin, calm, cloudy, temperature 63·; Eden, N.E., 14, like rain, light E. sea, temperature 61·; Moruya, calm, gloomy, smooth sea, temperature 59·; Cape St. George, S.W., 28, raining, smooth sea, temperature 61·; Sydney, S.S.W., 11, raining, smooth sea, temperature 58·; Newcastle, S., 14, cloudy, smooth sea, temperature [illegible]; Port Macquarie, S., 28, overcast and raining, moderate sea, temperature 66·; Clarence River, S., 14, showery, moderate sea, temperature 66·; Walgett, S., cloudy, temperature 68·; Dubbo, E., 14, fine, but cloudy, temperature 67·; Goulburn, calm, dull, like rain, temperature 59·.

Queensland.—Cooktown, calm, fine and clean, smooth sea, temperature 79·; Townsville, S.E., 13, fine, smooth sea, temperature 75·; Rockhampton, S.W., 13, fine, temperature 71·; Cape Moreton, S.E., 28, thick and showery, temperature 64·; Brisbane E., 8, passing showers, temperature 66·.

HEIGHT OF RIVERS ABOVE SUMMER LEVEL.

Macintyre: At Mungindi, low. Barwon: At Mogil Mogil, low; at Walgett, 3 feet 6 inches. Namoi: At Walgett, 2 feet. Culgoa: At Goodooga, low. Darling: At Brewarrina, summer level; at Bourke, 4 feet 3 inches; at Louth, 5 feet 6 inches; at Tilpa, 8 feet 2 inches; at Wilcannia, 10 feet 6 inches; at Menindie, 26 feet; at Pooncarie, 23 feet; at Wentworth, 12 feet 2 inches. Murrumbidgee: At Gundagai, 3 feet; at Wagga, 3 feet; at Hay, 2 feet; at Balranald, 6 feet 1 inch. Murray: At Albury, 2 feet 3 inches; at Euston, 5 feet 8 inches.

ASTRONOMICAL MEMORANDA FOR MAY 31.

Sun rises at 6.57 a.m., sets at 4.58 p.m.; moon, 1.24 p.m.; Mercury, 7.15 a.m., 5.7 p.m.; Venus, 10.4 a.m., 7.47 p.m.; Mars, 6.17 a.m., 4.24 p.m.; Jupiter, 2.41 p.m., 3.35 a.m.; Saturn, 9.59 a.m., 7.57 p.m. Full moon, 8th. New moon, 23rd.

High Water at Fort Denison, 1.58 a.m., 2.35 p.m.

H. A. LENEHAN,
Acting Government Astronomer.

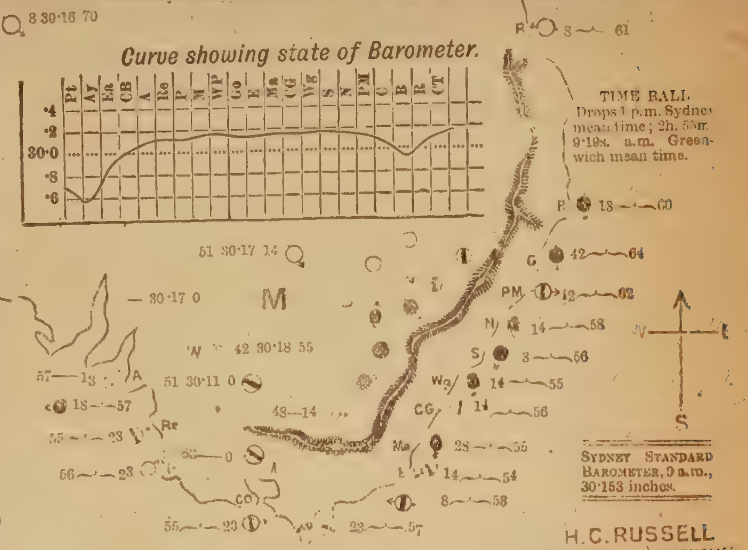
SYDNEY OBSERVATORY.

LATITUDE 33° 51′ 41″ S. LONGITUDE 10h. 4m. 50·51s. E.
MAGNETIC VARIATION, 9° 35′ 57″ E.

Average Annual Rainfall for 28 years .... 49·19
Average for 29 years from Jan. 1 to April 30 1887 . 20·34
Total Rainfall from Jan. 1, to May 31 1887 ...... 29·903
Barometers corrected to 32° Fah and Mean Sea Level

wind N. wind E
T. storm, wind S. Rain, wind W.
If it is CALM, the symbol used without the arrow
Smooth sea.
Heavy sea.
Very heavy sea.

Stations.	W.	M'x	M'n	R'n
Albury ..	c	65	48	0
Armidale	u	56	50	0·08
B. lranald	o	69	42	0
Bathurst	r	58	48	0·57
Bendem'r	u	55	36	0·09
Bodalla ..	r	66	53	0·11
Bourke ..	b	76	46	0
Bungarra	u	—	56	0·13
C'md'n H.	c	72	58	1·40
C. St. Geo.	c	62	55	0·26
Carcoar ..	r	58	38	0·22
Casino ..	r	70	55	2·25
Cassilis ..	r	59	54	0·35
Clarence .	r	70	60	1·87
C'nd'b'lin	g	68	47	0
Cooma ..	c	67	38	0
Coonab'n.	h	70	46	0·05
Cowra ..	g	65	45	0·14
Cudg'llico	f	68	42	0
Deniliq'n.	g	67	46	0
Dubbo ..	b	71	50	0
Eden	u	61	51	0·03
Euston ..	c	74	46	0
Forbes ..	g	—	54	0·10
Glen Inn's	r	52	48	0·09
Goulburn	r	56	45	0·13
EUCLA		18	55	
Grafton ..	r	71	53	1·01
Gulgong ..	r	60	38	0·40
Gunned'h	c	63	54	0·09
Hay	c	66	43	0
Inverell..	u	65	51	0
Kiandra..	r	41	35	0·03
Lismore. .	r	69	60	3·10
Maitland .	r	63	54	0·45
Marsdens.	c	67	60	0
Menindie.	b	70	48	0·05
Molong ..	r	51	46	0
M'r'ng'r'll	b	61	47	0
Moree ..	b	63	53	0
Moruya ..	r	60	53	0·32
Moss Vale	r	54	49	0·27
Mt. Hope	b	65	46	0
M. Vict'ria	r	51	43	0·40
Mudgee ..	r	65	46	0·27
M'rr'mb'h	u	62	51	0
M'rr'ndi	g	59	52	0·40
Mus'lbr'k	r	63	53	0·40
Narrabri	b	74	62	0·58
Newcastle	r	68	48	0·75
Orange ..	r	57	48	0·31
Picton ..	r	58	52	0·26
P. M'q'rie	c	63	56	4·86
P. St'ph'n	c	62	54	0·98
Q'nbeyan	r	63	39	0·12
Quirindi	r	67	52	0·03
Singleton	r	62	58	0·47
SYDNEY ..	r	59	56	2·18
Tamw'rth	g	67	42	0·12
Taralga ..	r	53	31	0·30
Taree	g	62	56	0·54
T'nt'rfield	u	61	53	0·15
Wagga ..	g	67	41	0
Walcha ..	r	53	43	0·19
Walgett	b	—	54	0
Warrah ..	g	60	—	0·15
W'ntw'rth	u	73	51	0·10
W'll'ng'ng	r	62	58	0·55
Young ..	u	72	50	0



NOTES EXPLANATORY OF MAP.

In the list of stations the column headed W. gives the state of the weather at 9 a.m.; b standing for blue sky; c, detached clouds; d, drizzling rain; f, fog; g, gloomy; h, hazy; m, misty; n, frosty; o, overcast; p, passing showers; r, rain; s, snow; t, thunder; u, threatening. The next column, M'x gives the maximum temperature for previous 24 hours. M'n the corresponding minimum temperature; r'n, the rain for the previous 24 hours. The symbols used in the map are explained on the margin. At each coast station the wind symbol is placed like a vane pointing to the direction from which the wind is coming. A clear circle with it means fine weather; a circle with bar, cloudy weather; and a black spot, raining. Next to this symbol are placed figures denoting the number of miles the wind is moving per hour; next, a symbol showing the state of the sea; and, lastly, figures denoting the shade temperature at 9 a.m. The barometer curve shows the state of barometers round the coast from Perth to Cooktown.—Pt, Perth; Ay, Albany; Ea, Eucla; CB, Cape Borda; A, Adelaide; Re, Robe; P, Portland; M, Melbourne; WP, Wilson's Promontory; Go, Gabo; E, Eden; Ma, Moruya; CG Jervis Bay; Wg, Wollongong; S, Sydney; N, Newcastle; PM, Port Macquarie; C, Clarence River; B, Brisbane; R, Rockhampton; Ct, Cooktown. Inland the state of barometer is given in figures at Albury, Deniliquin, Wentworth, Menindie, Bourke, and Alice Springs. The barometer curve enables one at a glance to trace the depressions, beginning with Western Australia, and passing along eastwards; northerly winds preceding them, and southerly following.

The rainfall on Sundays or holidays, when this map is not published, is in all cases included in the quantities shown by the next following map.

9 A.M. OBSERVATIONS.

Western Australia.—In N.W. parts fine, with light east winds; over the remainder of the colony overcast and threatening, with heavy showers at Albany, and light rain at Eucla. Barometers have fallen; the sea is moderate, but rough at Carnarvon; N.E. to N.W. winds in south parts. Rainfall: Perth, 2·63; Albany, 1·59; Eucla and Carnarvon, 0·05 inches. Extremes of barometers and temperature: Ashburton, 30·07; Albany, 29·55; Carnarvon, 76°; and Perth, 55°.

South Australia.—Generally overcast and gloomy south of Yongala, with light rains falling in parts; light N.E. to N.W. winds and calms, fallen barometers, and smooth to moderate sea. Rains have fallen along the coast and on the ranges. Jervis, 0·74; Queenscliff, 0·67; Kingston, 0·34; and at other stations smaller quantities. Extremes of barometers and temperature: Farina, 30·19; Eucla, 29·87; Port Darwin, 80°; and M'Donnell Bay, 53°.

Victoria.—Generally more or less cloudy and unsettled, with light to fresh easterly winds, fallen barometers, and moderate sea. Dense fog at Melbourne and Omeo, misty and squally in the Straits. Rainfall: Hamilton, 0·25; Horsham, 0·16; and Robe, 0·10 inch. Extremes of barometers and temperature: Hamilton, 30·19; Portland, 30·10; Horsham, 61°; and Omeo, 46°.

Tasmania.—Generally unsettled; gloomy in extreme south, fine in north; foggy at Hobart, and 0·03 inch rain fallen; light S.E. wind in north; calm in south, and the sea smooth. Extremes of barometers and temperature: Hobart, 30·33; Southport, 30·24 and 42°; Low Heads, 49°.

New Zealand.—Gloomy and calm in north; fine, with N.W. wind, over centre; and in south showery from west. Barometers: In north, 30·2; over centre, 30·0; and in south, 29·9.

New South Wales.—Raining almost throughout the entire eastern division of the colony; cloudy and unsettled over the remainder of the colony, except in N.W. parts, where it is fine. Winds very light generally, chiefly S. and easterly, but fresh to strong S. to S.W. winds are blowing in N.E. parts; the sea smooth to moderate. During the previous 24 hours more or less, heavy rains fell throughout the eastern division, very heavy at places on the north coast. Port Macquarie reports 4·86; Lismore, 3·10; Casino, 2·25; Sydney, 2·18; and several others from 1 to 2 inches. At Sydney, 2 inches fell between 9 p.m. and 9 a.m. Extra stations rainfall: Camden 0·35, Hill End 0·22, and still raining at both places; Gabo Island, 0·05 inch. Extremes of barometers and temperature: Forbes, 30·20; Clarence, 30·01 and 64°; Kiandra, 38°. For further particulars see map.

Queensland.—Generally fine, except in S.E. parts, where it is cloudy, squally, and raining; winds fresh to strong S. to S.E., and calms at places. Barometers have fallen; the sea smooth to moderate. Rainfall: Cape Moreton, 2·96, and Brisbane 0·90 inches. Extremes of barometers and temperature: Cooktown, 30·10 and 81°; Brisbane, 29·92; Roma, 56°.

3 P.M. OBSERVATIONS.

New South Wales.—Wentworth, N.E., 14, fine, temperature 57°; Deniliquin, calm, cloudy and dull, temperature 64°; Eden, E., 28, light rain, smooth sea, temperature 58°; Moruya, N.N.E., 14, misty rain, temperature 57°; Cape St. George, W., 14, cloudy, smooth sea, temperature 61°; Sydney, S.S.W., 11, raining lightly, smooth sea, temperature 57°; Newcastle, S., 14, dull, smooth sea, temperature 61°, Port Macquarie, E., 42, overcast, moderate sea, temperature 68°; Clarence River, S.S.E., 28, raining heavily, and squally, moderate sea, temperature 65°; Dubbo, calm, fine, but cloudy, temperature 66°; Goulburn, calm, raining, temperature 62°.

Queensland.—Normanton, S.E., fine and clear and sultry, temperature 94°; Townsville, S.E., 13, fine and clear, temperature 76°; Rockhampton, S.W., 18, fine and clear, temperature 72°; Roma, S.W., 13, fine and cloudy, temperature 69°; Cape Moreton, S.S.W., 23, overcast, temperature 63°; Brisbane, S., 18, heavy rain (half inch since 9 a.m.), temperature 61°.

HEIGHT OF RIVERS ABOVE SUMMER LEVEL.

Macintyre: At Mungindi, low. Barwon: At Mogil Mogil, low; at Walgett, 3 feet 6 inches. Namoi: At Walgett, 2 feet 6 inches. Culgoa: At Goodooga, low. Darling: At Brewarrina, low; at Bourke, 4 feet; at Louth, 5 feet 5 inches; at Tilpa, 7 feet 10 inches; at Wilcannia, 10 feet 2 inches; at Menindie, 26 feet; at Pooncarie, 23 feet 9 inches; at Wentworth, 12 feet 2 inches. Murrumbidgee: At Gundagai, 3 feet; at Wagga, 3 feet; at Hay, 2 feet; at Balranald, 6 feet. Murray: At Albury, 2 feet 3 inches; at Euston, 5 feet 7 inches.

ASTRONOMICAL MEMORANDA FOR JUNE 1.

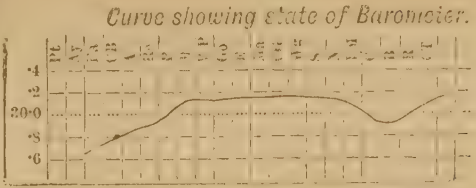
Sun rises at 6.58, sets at 4.57; moon, 2.3 p.m., 12.58 a.m.; Mercury, 7.21 a.m., 5.9 p.m.; Venus, 10.4 a.m., 7.48 p.m.; Mars, 6.16 a.m., 4.22 p.m.; Jupiter, 2.36 p.m., 3.30 a.m.; Saturn, 9.55 a.m., 7.53 p.m. Full moon, 6th. New moon, 21st.

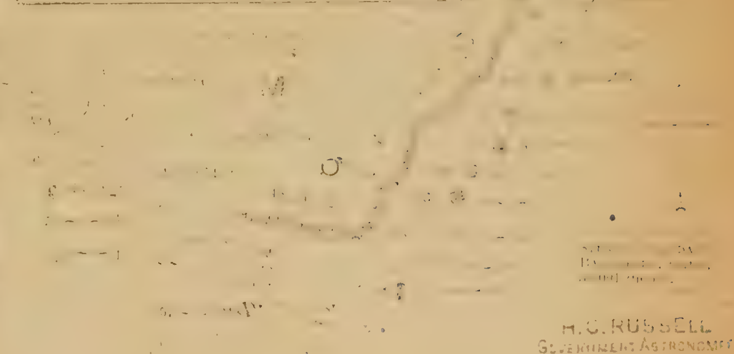
High water at Fort Denison, June 1: 3.11 a.m., 3.49 p.m.

H. A. LENEHAN,
Acting Government Astronomer.

Total Rainfall from Jan. 1, to [illegible]
Barometers corrected to 32° Fah. and Mean Sea Level.

Cooma	[illegible]	[illegible]	[illegible]	[illegible]
Dubbo	b	[illegible]	[illegible]	[illegible]
Euston	b	[illegible]	[illegible]	[illegible]
Glen Innes	b	[illegible]	[illegible]	[illegible]
EUCLA				
Kiandra..	[illegible]	[illegible]	[illegible]	[illegible]
Marsdens.	[illegible]	[illegible]	[illegible]	[illegible]
Menindi ..	[illegible]	[illegible]	[illegible]	[illegible]
M'r'ng'r'll	b	[illegible]	[illegible]	[illegible]
Mbree	b	[illegible]	[illegible]	0
Moss Vale	u	53	48	1·07
Mt. Hope	f	76	46	0
M.Vict'ria	o	50	42	0·95





H. C. RUSSELL,
Government Astronomer.

Mudgee..	u	60	44	[illegible]
M'rr'mb'n	b	57	43	0
M'r'nd'i	r	57	52	0·25
Mu'lerk	c	60	50	0·21
Narrabri	f	60	43	0·02
Newcastle	o	61	47	0·95
Orange ..	c	52	40	0·91
Picton ..	u	57	52	0·95
P. M'q'rie	r	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Tamw'rth	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	g	63	30	·70
[illegible]	c	65	57	[illegible]
[illegible]	b	56	[illegible]	0·18
W..	b	62	[illegible]	0
Wal'h..	u	62	39	0·59
Wal'g'tt	f	70	[illegible]	0
Wa..	b	61	—	0·12
Wh'nt'n	c	55	[illegible]	0·07
W'll'n'r	r	59	57	1·01
Young ..	b	[illegible]	42	0

NOTES EXPLANATORY TO THE MAP.

In the list of stations the column headed W. … gives the state of the weather at 9 a.m., b standing for blue sky; c, detached clouds; d, drizzling rain; f, fog; g, gloomy; h, hazy; m, misty; [illegible] o, overcast; p, passing showers; r, rain; s, snow; t, thunder; u, [illegible] The next column M'x gives the maximum temperature for previous 24 hours. M'n the corresponding minimum temperature; Rn, the rain for the previous 24 hours. The symbols used in the map are explained on the margin. At each coast station [illegible] direction from which the wind [illegible] [illegible] The barometer [illegible] round the coast from Perth to Cooktown: Pt, Perth; [illegible] Portland; M. [illegible] W. Wilson's Promontory; [illegible] Sydney; N. Newcastle; [illegible] Port Macquarie; C. Clarence River; [illegible] R. Rockhampton; C, Cooktown. [illegible] Albury, Deniliquin, Wentworth, Menindie, Bourke, and Alice Springs. The barometer curve enables one at a glance to trace the depression, beginning with Western Australia, and passing along eastwards; [illegible] winds [illegible]

The rainfall on Sundays or holidays, when this map is not published, is in all cases included in the quantities shown by the next following map.

9 A.M. OBSERVATIONS.

Western Australia.—No reports from west parts. Strong squally N.W. wind at Eucla; heavy showers from N.W., and stormy weather at Esperance Bay. Barometers low; 29·65 and 29·60 respectively; temperature, 56°. Rainfall: Esperance Bay, 1·60; and Eucla, 0·41 inch. The sea rough.

South Australia.—Generally overcast, gloomy, and threatening south of Tennant's Creek; scattered clouds and squally west of Cape Borda; fresh to strong N. to N.E. winds, fallen barometers, and moderate to rough sea. Rain has fallen on the coast west of Cape Borda; heaviest at Fowler's Bay, 0·46 inch; Streaky Bay, 0·25; Cape Borda, 0·11 inches. Extremes of barometers and temperature: Alice Springs, 30·06; Eucla, 29·65; Port Darwin, 78°; and M'Donnell Bay, 50°.

Victoria.—Generally more or less cloudy and unsettled, with light to fresh N. to E. winds, fallen barometers, and moderate to rough sea. Dense fogs inland; squally in the Straits. Rainfall: Wilson's Promontory, 0.02, and Portland, 0·01 inches. Extremes of barometers and temperature: Echuca, 30·15; Portland, 29·94; Horsham, 59°; and Hamilton, 45°.

Tasmania.—Generally fine, but unsettled; with light easterly wind and calms; foggy at Hobart. Extremes of barometers and temperature: Falmouth, 30·22 and 56°; Southport, 30·14 and 46°.

New Zealand.—Generally fine, with light southerly winds, and barometers standing at 30·2.

New South Wales.—West of the ranges generally fine, with fogs at scattered places; along the ranges cloudy and gloomy; on and near the coast showery and thick rain. Winds light generally, but fresh in N.E. parts; from S.E. to S.W. on the coast; N.E. to E. on the ranges; and in west parts variable and calm. The sea smooth to moderate, but rough at Port Macquarie. During the previous 24 hours rain fell throughout the eastern division, heaviest along the coast and on the ranges south of Mount Victoria. Several stations in north coast districts report over two inches, and many scattered stations from one to two inches. Extra stations rainfall: Bega, 2·27; Camden 0·85; Hill End, 0·68; Gabo Island, 1·09; and Manning Heads, 2·10 inches. Extremes of barometers and temperature: Wentworth, 30·17; Clarence, 29·92 and 59°; Kiandra, 40°. For further particulars see map.

Queensland.—Generally fine and cool, with light to fresh S. to E. winds, fallen barometers and smooth sea. Rainfall: Cape Moreton 2·76, and Brisbane 0·84. Extremes of barometers and temperature: Townsville, 30·12; Brisbane, 29·91; Cooktown, 81°; and Roma, 55°.

P.M. OBSERVATIONS.

Victoria.—Portland, N.N.E., 23, fine, but cloudy, smooth sea, temperature 61°; Cape Otway, E.S.E., 13, fine, smooth sea, temperature 62°; Melbourne, N., 13, fine and clear, temperature 65°; Cape Schanck, N.N.E., 13, fine, but cloudy, foggy, slight sea, temperature 61°; Wilson's Promontory, N.N.E., 18, cloudy and squally, rough sea, temperature 57°; Lakes' Entrance, E., 23, fine, but cloudy, temperature 62°.

New South Wales.—Menindie, N.W., 14, fine, temperature 64°; Wentworth, N.W., 14, fine, but cloudy, temperature 58°; Deniliquin, calm, fine, temperature 63°; Eden, S.W., 14, cloudy, light east sea, temperature 61°; Moruya, S.W., 14, thick rain, moderate sea, temperature 58°; Cape St. George, S., 28, cloudy, smooth sea, temperature 63°; Sydney, S.E., 11, showery all day, moderate sea, temperature 59°; Newcastle, S.S.W., 14, dull, smooth sea, temperature 58°; Port Macquarie, S.S.W., 42, dull and raining, moderate sea, temperature 61°; Clarence River, S.S.W., 42, rather heavy sea, temperature 65°; Walgett, S.S.W., 11, fine, temperature 63°; Dubbo, calm, fine, temperature 66°; Goulburn, E., 14, showery, temperature 61°.

Queensland.—Townsville, S.E., 18, fine and clear, temperature 72°; Rockhampton, S.W., 13, fine and clear, temperature 72°; Roma, S., 13, fine and clear, temperature 69°; Cape Moreton, S.S.W., 23, fine, temperature 70°; Brisbane, S.S.E., 13, fine, temperature 72°.

HEIGHT OF RIVERS ABOVE SUMMER LEVEL.

Macintyre: At Mungindi, low. Barwon: At Mogil Mogil, low; at Walgett, 3 feet. Namoi: At Walgett, 2 feet 6 inches. Culgoa: At Goodooga, low. Darling: At Brewarrina, low; at Bourke, 3 feet 9 inches; at Louth, 5 feet 4 inches; at Tilpa, 7 feet 5 inches; at Wilcannia, 10 feet 12 inches; at Menindie, 25 feet 10 inches; at Pooncarie, 23 feet 9 inches; at Wentworth, 12 feet 2 inches. Murrumbidgee: At Gundagai, 3 feet; at Wagga, 3 feet; at Hay, 1 foot 10 inches; at Balranald, 5 feet 10 inches. Murray: At Albury, 2 feet 3 inches; at Euston, 5 feet 7 inches.

ASTRONOMICAL MEMORANDA FOR JUNE 2.

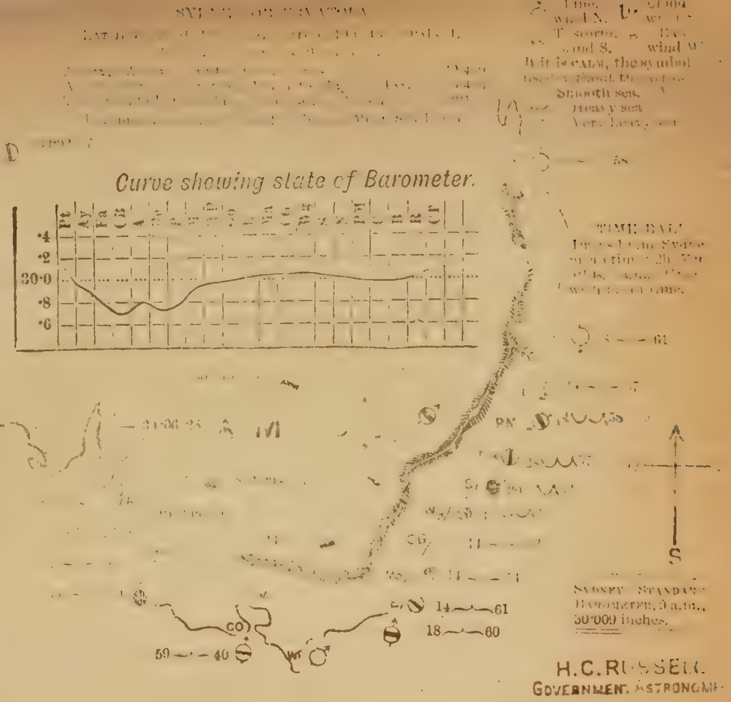
Sun rises at 6.53, sets at 4.57; moon, 2.43 p.m., 2.3 a.m.; Mercury, 7.27 a.m., 5.13 p.m.; Venus, 10.4 a.m., 7.49 p.m.; Mars, 6.16 a.m., 4.21 p.m.; Jupiter, 2.32 p.m., 3.26 a.m.; Saturn 9.52 a.m., 7.50 p.m. Full moon, 6th. New moon, 21st.

High water at Fort Denison, June 2: 4.28 a.m., 5.5 p.m.

H. A. LENEHAN,
Acting Government Astronomer.

Albury	[illegible]	[illegible]	[illegible]	[illegible]
Armidale	[illegible]	[illegible]	[illegible]	[illegible]
Balranald	[illegible]	79	[illegible]	[illegible]
Bathurst	c	57	[illegible]	[illegible]
Bendemeer	[illegible]	58	[illegible]	[illegible]
Bodalla	[illegible]	63	[illegible]	[illegible]
Bourke	g	77	[illegible]	0
Bate'man's Bay	[illegible]	[illegible]	[illegible]	[illegible]
Cap'n H'se	[illegible]	[illegible]	[illegible]	[illegible]
C. St. Geo.	c	63	[illegible]	[illegible]
Cardour	[illegible]	[illegible]	[illegible]	[illegible]
Casino	c	71	[illegible]	[illegible]
Cassilis	[illegible]	[illegible]	[illegible]	[illegible]
Clarence	[illegible]	[illegible]	[illegible]	[illegible]
C'nd'b'lin	[illegible]	67	[illegible]	[illegible]
Cooma	[illegible]	[illegible]	[illegible]	[illegible]
Coonab'n	b	[illegible]	[illegible]	[illegible]
Cowra	[illegible]	[illegible]	[illegible]	[illegible]
C'n'h'Rico'	[illegible]	[illegible]	[illegible]	[illegible]
Deniliq'n	b	[illegible]	[illegible]	[illegible]
Dubbo	[illegible]	[illegible]	[illegible]	[illegible]
Eden	[illegible]	[illegible]	[illegible]	[illegible]
Euston	[illegible]	[illegible]	[illegible]	[illegible]
Forbes	[illegible]	[illegible]	[illegible]	[illegible]
Glen Innes	[illegible]	[illegible]	[illegible]	[illegible]
Goulburn	[illegible]	[illegible]	[illegible]	[illegible]
Grafton	b	62	53	0·02
Gundagai	[illegible]	[illegible]	[illegible]	[illegible]
Gunnedah	[illegible]	[illegible]	[illegible]	[illegible]
Hay	[illegible]	[illegible]	[illegible]	[illegible]
Inverell	[illegible]	[illegible]	[illegible]	[illegible]
Kiandra	[illegible]	[illegible]	[illegible]	[illegible]
Lismore	[illegible]	[illegible]	[illegible]	[illegible]
Maitland	[illegible]	[illegible]	[illegible]	[illegible]
Marsden's	[illegible]	[illegible]	[illegible]	[illegible]
Menindie	r	[illegible]	[illegible]	[illegible]
Molong	[illegible]	[illegible]	[illegible]	[illegible]
M'r'ng'r'l'b	[illegible]	[illegible]	[illegible]	[illegible]
Moree	b	79	41	0
Moruya	r	62	50	[illegible]
Moss Vale	r	54	49	[illegible]
Mt. Hope	b	73	47	0
M. Vict'ria	r	53	42	0·75

S—55 EUCLA



Mudgee	c	67	37	0
M'rr'mb'h	u	73	39	0
M'rr'ndi	f	58	53	0
Mus'lbr'k	n	64	52	0·06
Narrabri	f	64	44	0
Newcastle	c	67	47	0·35
Orange	c	54	42	0
Picton	r	57	52	0·62
P. M'q'rie	e	59	54	0·65
P. St'ph'n	r	61	53	1·00
Q'nbeyan	g	59	37	0
Quirindi	g	63	41	0
Singleton	g	60	56	0·07
SYDNEY	r	63	57	0·93
Tamw'rth	—	—	—	—
Taralga	r	54	30	0·10
Taree	u	60	56	0·47
T'nt'rfield	b	66	45	0
Wagga	b	64	35	0
Walcha	f	49	37	0·04
Walgett	c	68	43	0
Warrah	c	65	—	0·03
W'ntw'rth	r	71	48	0·23
W'll'ng'ng	r	59	58	0·01
Young	g	77	43	0

NOTES EXPLANATORY OF MAP.

In the list of stations the column headed W.T. gives the state of the weather at 9 a.m., b standing for blue sky; c, detached clouds; d, drizzling rain; f, fog; g, gloomy; h, hazy; m, misty; n, frosty; o, overcast; p, passing showers; r, rain; s, snow; t, thunder; u, threatening. The next column, M'x gives the maximum temperature for previous 24 hours. M'n the corresponding minimum temperature; r'n, the rain for the previous 24 hours. The symbols used in the map are explained on the margin. At each coast station the wind symbol is placed like a vane pointing to the direction from which the wind is coming. A clear circle with it means fine weather; a circle with bar, cloudy weather; and a black spot, raining. Next to this symbol are placed figures denoting the number of miles the wind is moving per hour; next, a symbol showing the state of the sea; and, lastly, figures denoting the shade temperature at 9 a.m. The barometer curve shows the state of barometers round the coast from Perth to Cooktown:—Pt, Perth; Ay, Albany; Ea, Eucla; CB, Cape Borda; A, Adelaide; Re, Robe; P, Portland; M, Melbourne; W P, Wilson's Promontory; Go, Gabo; E, Eden; Ma, Moruya; C G Jervis Bay; Wg, Wollongong, S, Sydney; N, Newcastle; P M, Port Macquarie; C, Clarence River; B, Brisbane; R, Rockhampton; Ct, Cooktown. Inland the state of barometer is given in figures at Albury, Deniliquin, Wentworth Menindie, Bourke, and Alice Springs. The barometer curve enables one at a glance to trace the depressions, beginning with Western Australia, and passing along eastwards; northerly winds preceding them, and southerly following.

The rainfall on Sundays or holidays, when this map is not published, is in all cases included in the quantities shown by the next following map.

9 A.M. OBSERVATIONS.

Western Australia.—Generally more or less cloudy and unsettled, with showers at Albany; fresh to strong N.W. to S.W. winds, risen barometers, and moderate to rough sea. Rainfall during the last 48 hours: Esperance Bay, 2·05; Geraldton, 2·03; Perth, 1·74; and Albany, 1·36 inches. Extremes of barometers and temperature: Perth, 30.15; Esperance Bay, 29·89; Carnaroon, 70°; and Albany, 47°.

South Australia.—Generally fine, with light scattered clouds in parts, fresh to strong N.E. to N.W. winds, fallen barometers, and moderate to rough sea. Squally on the coast. Rain has fallen south of Charlotte and east of Cape Borda; generally from 0·10 to 0·50 inch; Clarendon, 1·22; Crafers, 1·14; Kadina, 0·83; Lucindale, 0·62; and Goolwa, 0·50 inch. Extremes of barometers and temperature: Alice Springs, 30·09; Cape Borda, 29·67; M'Donnell Bay, 53°; and Port Darwin, 79°.

Victoria.—Generally cloudy and unsettled, with showery weather in S.W., fresh to strong northerly winds, fallen barometers and moderate to rough sea. Rainfall: Horsham, 0·39; Portland, 0·10; and Omeo, 0·06 inches. Extremes of barometers and temperature: Omeo, 30·07; Portland, 29·74; Horsham, 60°; and Omeo, 45°.

Tasmania.—Generally cloudy and unsettled; with light to fresh N. to E. winds, fallen barometers, and moderate to rough sea. **Rainfall:** Low Heads, 0·02 inch. Extremes of barometers and **temperature:** Low Heads, 30·02 and 58°; Southport, 29·94 and 50°.

New Zealand.—Fine, with S.E. wind in north, calm and fine over centre, and passing showers from S.W. in extreme south. Barometers: Over centre, 30·3, in North and South, 30·2.

New South Wales.—Generally cloudy and unsettled, with rain and showery weather in extreme S.W. parts, and in central, coast, and mountain districts; light to fresh variable winds, chiefly N. to E.; and strong N.E. winds at Sydney and Wollongong. The sea moderate, but rough between Wollongong and Port Macquarie. During the previous 24 hours rain fell in east parts generally, but not so heavy or extensive as previously. **Extra stations:** Manning Heads, max. 85, min. 51, 0·57 inch **rain, heavy sea,** and threatening weather; Camden, 0·70 inch rain, raining heavily, Nepean rising steadily. Extremes of barometers and temperature: Forbes, 30·12; Clarence, 29·96; Sydney and Cape St. George, 62°; Cooma, 43°. For further particulars see map.

Queensland.—Generally fine, with light S. to E. winds, steady barometers, and smooth sea; clouds in S.W. and N.E. parts. **Rainfall:** Brisbane 0·01 inch. Extremes of barometers and temperature: Townsville, 30·12 and 75°; Brisbane, 29·97; and Roma, 57°.

3 P.M. OBSERVATIONS.

Victoria.—Portland, N., 34, fine, smooth sea, temperature 61°; Cape Otway, N., 14, fine, smooth sea, temperature 62°; Melbourne, N., 13, dull and threatening, temperature 61°; Cape Schanck, N., 13, overcast and light rain, moderate sea, temperature 58°; Wilson's Promontory, N.E., 23, overcast, gloomy, and squally, rough sea, temperature 57°; Lakes' Entrance, E., 18, fine, but cloudy, temperature 63°.

New South Wales.—Menindie, N., 29, overcast and showery, temperature 65°; Wentworth, N.E., 14, fine, but cloudy, temperature 57°; Deniliquin, N., 14, cloudy and dull, temperature 62°; Eden, N.E., 14, raining, light east sea, temperature 62°; Moruya, calm, thick misty rain, rough sea, temperature 60°; Cape St. George, N., 42, thick rain falling, moderate sea, temperature 63°; Sydney, E., 2, raining steadily, heavy sea, temperature 61°; Newcastle, S., 11, thick and misty, rough sea, temperature 62°; Port Macquarie, S., 14, cloudy, heavy sea, temperature 69°; Clarence River, calm, fine, moderate sea, temperature 69°; Wagga, S.W., 14, cloudy and dull, temperature 66°; Dubbo, N., 14, fine, but cloudy, temperature 64°; Goulburn, calm, showery, temperature 63°.

Queensland.—Townsville, S.E., 18, fine and clear, temperature 72°; Rockhampton, S.W., 8, fine, temperature 71°; Roma, S.W., 8, fine, partially cloudy, temperature 71°; Cape Moreton, S., 18, fine, temperature 65°; Brisbane, S., 8, fine, temperature 72°.

HEIGHT OF RIVERS ABOVE SUMMER LEVEL.

Macintyre: At Mungindi, low. Barwon: At Mogil Mogil, low; at Walgett, 3 feet 2 inches. Namoi: At Walgett, 2 feet 6 inches. Culgoa: At Goodooga, low. Darling: At Brewarrina, low; at Bourke, 3 feet 6 inches; at Louth, 5 feet 3 inches; at Tilpa, 7 feet 2 inches; at Wilcannia, 10 feet; at Menindie, 25 feet 9 inches; at Pooncarie, 23 feet 9 inches; at Wentworth, 12 feet 2 inches. Murrumbidgee: At Gundagai, 3 feet; at Wagga, 3 feet; at Hay, 2 feet; at Balranald, 5 feet 1 inch. Murray: At Albury, 2 feet 5 inches; at Euston, 5 feet 6 inches.

ASTRONOMICAL MEMORANDA FOR JUNE 3.

Sun rises at 6.59, sets at 4.57; moon, 3.23 p.m., 3.9 a.m.; Mercury, 7.33 a.m., 5.18 p.m.; Venus, 10.4 a.m., 7.51 p.m.; Mars, 6.15 a.m., 4.19 p.m.; Jupiter, 2.28 p.m., 3.22 a.m.; Saturn, 9.48 a.m., 7.46 p.m. **Full moon, 6th. New moon, 21st.**

High water at Fort Denison, 5.42 a.m., 6.13 p.m.

H. A. LENEHAN,
Acting Government Astronomer.

Station	W.T.	Mx	Mn	Rn
Albury	g	64	44	0·10
Armidale	b	59	46	0
Balranald	f	70	55	0·53
Bathurst	c	63	41	0
Bendem'r	f	61	53	0
Bodalla	g	62	46	1·26
Bourke	c	70	51	0·02
Bungarra	f	—	46	0
C'md'n H.	b	65	54	0
C. St. Geo.	b	66	55	1·82
Carcoar	g	55	36	0·02
Casino	b	75	46	0
Cassilis	b	59	46	0
Clarence	b	72	55	0
C'nd'b'lin	g	66	46	0
Cooma	c	50	42	0·07
Coonab'n.	b	69	33	0·01
Cowra	c	58	48	0
Cudg'llico	u	64	37	0
Deniliq'n.	g	63	44	0·30
Dubbo	r	65	36	0
Eden	c	64	54	1·06
Euston	b	62	41	0·25
Forbes	g	—	51	0·08
Glen Inn's	b	60	39	0
Goulburn	b	59	44	0·01
Grafton	b	75	52	0
Gulgong	u	58	36	0
Gunned'h	b	63	44	0
Hay	f	63	48	0·21
Inverell	b	60	38	0
Kiandra	r	51	40	0·21
Lismore	b	80	52	0
Maitland	b	67	53	0
M'n'ng H.	b	65	55	0
Marsdens	u	65	46	0
Menindie	—	—	—	—
Molong	g	49	36	0
M'r'ng'r'll	c	65	45	0
Moree	b	75	40	0
Moruya	b	63	53	0·95
Moss Vale	b	58	49	0·53
Mt. Hope	u	70	41	0
M. Vict'ria	b	58	43	0·02
Mudgee	f	60	38	0
M'rr'mb'h	r	64	43	0·03
M'rr'r'ndi	b	58	52	0
Mus'lbr'k	b	67	45	0
Narrabri	b	64	41	0
Newcastle	b	66	44	0·15
Orange	g	54	41	0·02
Picton	—	—	—	—
P. M'q'rie	b	69	52	0
P. St'ph'n	b	63	49	1·75
Q'nbeyan	c	59	38	0·15
Quirindi	b	65	49	0
Singleton	b	64	56	0·01
SYDNEY	b	63	56	1·37
Taralga	u	52	39	0·20
Taree	b	69	50	0·01
T'nt'rfield	b	67	49	0
Wagga	g	68	40	0
Walcha	b	59	37	0
Walgett	c	67	45	0
Warrah	f	62	—	0
W'ntw'rth	—	—	—	—
W'll'ng'ng	b	63	58	0·25
Young	r	75	44	0·08

SYDNEY OBSERVATORY.

LATITUDE 33° 51′ 41″ S. LONGITUDE 10h. 4m. 50·51s. E.

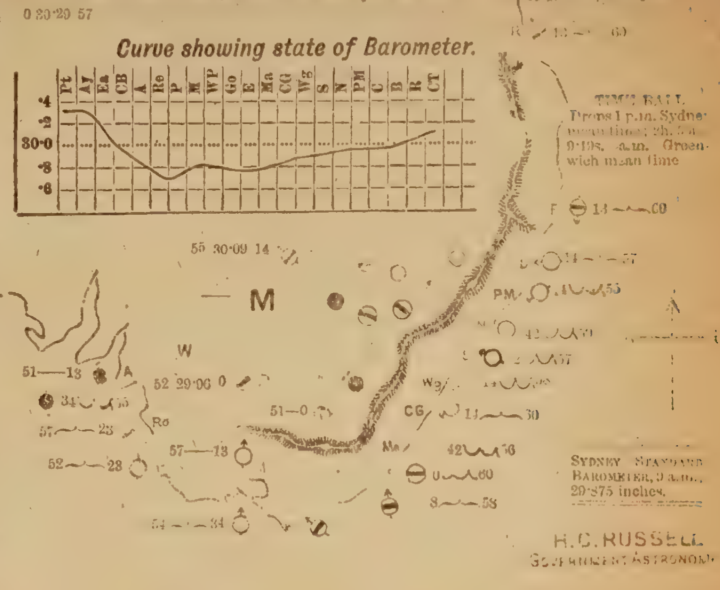
MAGNETIC VARIATION, 9° 45′ 37″ E.

Average Annual Rainfall for 28 years .... 49·481

Average for 29 years from Jan. 1 to May 31 1857 ... 25·40

Total Rainfall from Jan. 1, to June 3 1887 ...... 30·452

Barometers corrected to 32° Fah. and Mean Sea Level.



Fine, wind N. | T. storm, wind S. | Rain, wind W.

If it is CALM, the symbol used without the arrow

Smooth sea.

Heavy sea.

Very heavy sea.

TIME BALL.

Drops 1 p.m. Sydney mean time; 2h. 5m. 9·19s. a.m. Greenwich mean time

SYDNEY STANDARD BAROMETER, 9 a.m., 29·875 inches.

H. C. RUSSELL

GOVERNMENT ASTRONOMER.

NOTES EXPLANATORY OF MAP.

In the list of stations the column headed W.T. gives the state of the weather at 9 a.m., b [illegible] hazy, [illegible] frosty, o, overcast; p, passing showers, r, rain, s, snow; t, thunder; u, threatening. The next column, Mx gives the maximum temperature for previous 24 hours. Mn the corresponding minimum temperature; Rn, the rain for the previous 24 hours. The symbols used in the map are explained on the margin. At each coast station the wind symbol is placed like a vane pointing to the direction from which the wind is coming. A clear circle with it means fine weather; a circle with bar, cloudy weather; and a black spot, raining. Next to this symbol are placed figures denoting the number of miles the wind is moving per hour; next, a symbol showing the state of the sea; and, lastly, figures denoting the shade temperature at 9 a.m. The barometer curve shows the state of barometers round the coast from Perth to Cooktown:- Pt, Perth; Ay, Albany; Ea, Eucla; CB, Cape Borda; A, Adelaide; Re, Robe; P, Portland, M, Melbourne; WP, Wilson's Promontory; Go, Gabo; E, Eden; Ma, Moruya; CG Jervis Bay; Wg, Wollongong; S, Sydney; N, Newcastle; PM, Port Macquarie; C, Clarence River; B, Brisbane; R, Rockhampton; Ct, Cooktown. Inland the state of barometer is given in figures at Albury, Deniliquin, Wentworth, Menindie, Bourke, and Alice Springs. The barometer curve enables one at a glance to trace the depressions, beginning with Western Australia, and passing along eastwards; northerly winds preceding them, and southerly following.

The rainfall on Sundays or holidays, when this map is not published, is in all cases included in the quantities shown by the next following map.

9 A.M. OBSERVATIONS.

Western Australia.—Gloomy and showery in south parts, with light westerly winds; fine along the west coast, with easterly winds; barometers risen, and the sea smooth to moderate. Rainfall: Eucla, 0·27; Albany, 0·05; and Esperance Bay, 0·01. Extremes of barometers and temperature: Perth, 30·33 and 47°; Cossack, 30·12; and Carnarvon, 74°.

South Australia.—On and near the coast overcast and unsettled, with light rain at places; inland fine, with scattered clouds; fresh to strong N. to N.W. winds, risen barometers, and moderate to rough sea. Rain has fallen west of Adelaide: Fowler's Bay, 0·53; Streaky Bay, 0·54; and Port Lincoln, 0·55. Extremes of barometers and temperature: Alice Springs, 30·29; Robe, 29·67; Port Darwin, 80°; and M'Donnell Bay, 49°.

Victoria.—Generally cloudy and unsettled, with showers at Omeo and Wilson's Promontory, fresh to strong northerly winds, fallen barometers, and moderate to rough sea. Rainfall: Wilson's Promontory, 0·26; Echuca, 0·25; Melbourne, 0·17; Cape Schanck, 0·07; and Hamilton, 0·03 inch. Extremes of barometers and temperature: Horsham, 29·88 and 60°; Portland 29·67; and Hamilton, 50°.

Tasmania.—Generally gloomy and threatening, with light N. to W. winds, fallen barometers, and moderate to rough sea. Extremes of barometers and temperature: Low Heads, 29·77 and 55°; Hobart, 29·72 and 51°.

New Zealand.—Passing showers from S.E. in extreme north parts, calm and fine over the centre, and in south fine with N.W. wind. Barometers: In south, 30·4; to northward, 30·3°.

New South Wales.—Fine in N.E. parts; cloudy, gloomy, and unsettled over the remainder of the colony, with showery weather west of the ranges from Dubbo to Kiandra; light to fresh westerly winds, but strong N.W. at places on the coast; the sea rough from Eden to Port Macquarie. During the previous 24 hours rain fell in south parts generally, heaviest on the coast, where several stations report over an inch fallen. Extra stations:—Rainfall: Gabo Island, 0·68; Wilcannia, 0·20; Bega, 0·37 yesterday, 0·72 to-day; Camden, 0·75 inch; Nepean in flood. Extremes of barometers and temperature: Walgett, 30·09; Eden and Cape St. George, 60°; Gabo Island, 29·76; and Kiandra, 42°. For further particulars see map.

Queensland.—Generally more or less cloudy and gloomy, with light S.E. to S.W. winds, risen barometers, and smooth to moderate sea. No rain reported. Extremes of barometers and temperature: Townsville, 30·15; Brisbane, 29·97; Cooktown, 79°; and Roma, 62°.

3 P.M. OBSERVATIONS.

Victoria.—Portland, N.N.W., 23, overcast, smooth sea, temperature 57°; Cape Otway, N., 23, fine and clear slight sea, temperature 62°; Melbourne, N., 13, fine, temperature 62°; Cape Schanck, N., 18, fine, but cloudy, slight sea, temperature 60°; Wilson's Promontory, N.W., 18, squally, moderate sea, temperature 60°; Lakes' Entrance, calm, fine, clear, temperature 62°.

New South Wales.—Menindie, N.W., 23, fine, but cloudy, temperature 64°; Wentworth, S., 14, fine and clear, temperature 58°; Deniliquin, W., 14, fine, temperature 63°; Eden, calm, fine, heavy easterly sea, temperature 62°; Moruya, W.N.W., 14, fine, rough sea, temperature 67°; Cape St. George, W.S.W., 14, fine, moderate sea, temperature 67°; Sydney, W.N.W., 16, fine and hazy, heavy east sea, temperature 66°; Newcastle, N.W., 14, fine, moderate sea, temperature 67°; Port Macquarie, calm, fine, heavy sea, temperature 60°; Clarence River, calm, fine, moderate sea, temperature 70°; Walgett, N.W., 14, fine, temperature 69°; Dubbo, calm, fine, temperature 64°; Goulburn, W., 14, dull, temperature 62°; Picton, calm, fine, temperature 63°.

Queensland.—Normanton, fine and clear, temperature 88°; Townsville, S.E., 13, fine, temperature 75°; Roma, calm, fine, partially cloudy, temperature 74°; Brisbane, S.S.W., 8, fine, temperature 73°.

HEIGHT OF RIVERS ABOVE SUMMER LEVEL.

Macintyre: At Mungindi, low. Barwon: At Mogil Mogil, low; at Walgett, 3 feet. Namoi: At Walgett, 2 feet. Culgoa: At Goodooga, low. Darling: At Brewarrina, low; at Bourke, 3 feet 3 inches; at Louth, 5 feet 2 inches; at Tilpa, 7 feet; at Wilcannia, 9 feet 10 inches. Murrumbidgee: At Gundagai, 3 feet; at Wagga, 3 feet; at Hay, 2 feet; at Balranald, 5 feet 8 inches. Murray: At Albury, 2 feet 5 inches; at Euston, 5 feet 6 inches.

ASTRONOMICAL MEMORANDA FOR JUNE 4.

Sun rises at 6.59, sets at 4.57; moon, 4.6 p.m., 4.15 a.m.; Mercury, 7.39 a.m., 5.22 p.m.; Venus, 10.4 a.m., 7.5? p.m.; Mars, 6.15 a.m., 4.18 p.m.; Jupiter, 2.24 p.m., 3.18 a.m.; Saturn, 9.45 a.m., 7.43 p.m. Full moon, 6th. New moon, 21st.

High water at Fort Denison, 6.43 a.m., 7.9 p.m.

H. A. LENEHAN,

Acting Government Astronomer.

Albury ..	u	61	44	0·05
Armidale	b	58	45	0·13
Balranald	b	72	42	0·02
Bathurst	b	60	36	0·01
Bendem'r	g	63	45	0·22
Bodalla ..	g	72	42	0
Bourke ..	b	78	46	0
Buncarra	c	—	47	0·16
C'md'n H.	b	71	54	0
C. St. Geo.	b	75	51	0
Carcoar ..	g	55	35	0·11
Casino ..	c	78	50	0·06
Cassilis ..	b	61	43	0·05
Clarence .	u	74	51	0
C'nd'b'lin	u	67	47	0·07
Cooma ..	n	64	32	0
Coonab'n.	f	67	41	0·26.
Cowra ..	r	60	48	0·25
Cudg'llico	g	69	43	0
Deniliq'n.	g	66	45	0·23
Dubbo ..	b	68	35	0
Eden	b	56	47	0
Euston ..	h	70	43	0·08
Forbes ..	r	—	46	0·37
Glen Inn's	g	62	49	0·08
Goulburn	b	63	41	0

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EUCLA

Grafton ..	u	76	53	0
Gulgong .	b	60	38	0
Gunned'h	c	66	49	0·30
Hay ..	u	63	42	0·07
Inverell ..	f	62	44	0·23
Kiandra ..	f	45	34	0·29
Lismore .	h	83	53	0
Maitland .	b	69	56	0
M'n'ng H.	b	69	54	0·02
Marsdens.	c	64	50	0·07
Menindie.	u	65	53	0
Molong ..	b	46	35	0
M'r'ng'r'll	u	65	42	0·19
Moree ..	b	78	48	0.13
Moruya ..	b	71	49	0
Moss Vale	h	57	44	0
Mt. Hope	u	70	41	0

SYDNEY OBSERVATORY.

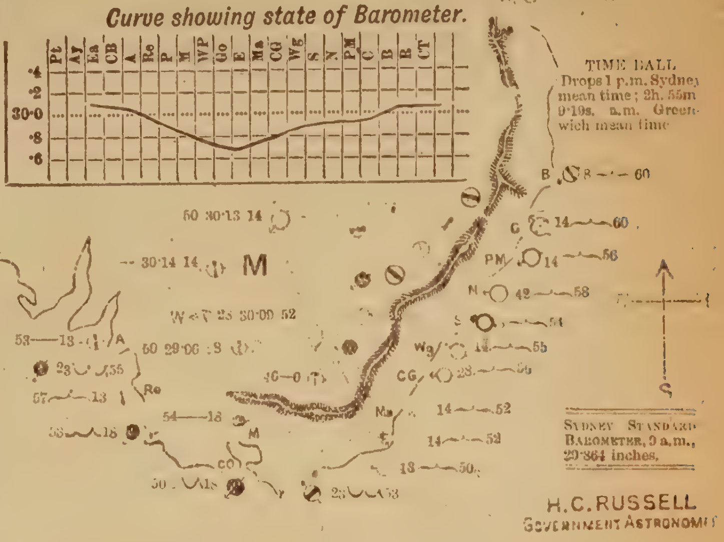
LATITUDE 33° 51' 41" S. LONGITUDE 10h. 4m. 50·31s. E.
MAGNETIC VARIATION, 9° 35' 37" E.

Average Annual Rainfall for 28 years .... 49·489
Average for 29 years from Jan. 1 to May 31 1887 .. 25·493
Total Rainfall from Jan. 1, to June 4 1887 .... 38·522

Barometers corrected to 32° Fah. and Mean Sea Level

○ wind N. ⊕ wind E.
T. storm, wind S. Rain, wind W.
If it is CALM, the symbol used without the arrow
Smooth sea.
Heavy sea.
Very heavy sea.

Curve showing state of Barometer.



M. Vict'ria	e	55	38	0·17
Mudgee ..	n	65	38	0
M'rr'mb'h	c	63	41	0·30
M'rr'r'ndi	o	61	51	0·20
Mus'lbr'k	b	69	46	0·05
Narrabri	f	71	48	0·36
Newcastle	b	70	43	0
Orange ..	g	55	39	0·02
Picton ..	b	64	42	0
P. M'q'rie	b	67	51	0·03
P. St'ph'n	b	65	43	0
Q'nbeyan	f	54	35	0
Quirindi	c	67	50	0·29
Singleton	b	62	51	0
SYDNEY ..	b	66	51	0·04
Taralga ..	u	51	30	0·20
Taree	b	72	52	0·01
T'nt'rfield	b	66	52	0·11
Wagga ..	r	66	37	0·07
Walcha ..	c	60	37	0·20
Walgett	b	69	47	0·21
Warrah ..	r	75	—	0·29
W'ntw'rth	c	66	46	0
W'll'ng'ng	q	71	55	0
Young ..	r	64	33	0·20

NOTES EXPLANATORY OF MAP.

In the list of stations the column headed W. T. gives the state of the weather at 9 a.m., b standing for blue sky, c, detached clouds; d, drizzling rain; f, fog; g, gloomy; h, hazy; m, misty; n, frosty; o, overcast; p, passing showers; r, rain; s, snow; t, thunder; u, threatening. The next column, M'x gives the maximum temperature for previous 24 hours. M'n the corresponding minimum temperature; R n, the rain for the previous 24 hours. The symbols used in the map are explained on the margin. At each coast station the wind symbol is placed like a vane pointing to the direction from which the wind is coming. A clear circle with it means fine weather; a circle with bar, cloudy weather; and a black spot, raining. Next to this symbol are placed figures denoting the number of miles the wind is moving per hour; next, a symbol showing the state of the sea; and, lastly, figures denoting the shade temperature at 9 a.m. The barometer curve shows the state of barometers round the coast from Perth to Cooktown:—Pt, Perth; Ay, Albany; Ea, Eucla; CB, Cape Borda; A, Adelaide; Re, Robe; P, Portland; M, Melbourne; W P, Wilson's Promontory; Go, Gabo; E, Eden; Ma, Moruya; C G Jervis Bay; Wg, Wollongong; S, Sydney; N, Newcastle; P M, Port Macquarie; C, Clarence River; B, Brisbane; R, Rockhampton; Ct, Cooktown. Inland the state of barometer is given in figures at Albury, Deniliquin, Wentworth, Menindie, Bourke, and Alice Springs. The barometer curve enables one at a glance to trace the depressions, beginning with Western Australia, and passing along eastwards; northerly winds preceding them, and southerly following.

The rainfall on Sundays or holidays, when this map is not published, is in all cases included in the quantities shown by the next following map.

9 A.M. OBSERVATIONS.

Western Australia.—Fine along the west coast, with light easterly winds; showery in south parts, with light N. to W. winds; barometers risen, and the sea smooth to moderate, and at places rough. Rainfall: Esperance Bay, 0·19; and Albany, 0·05 inch. Extremes of barometers and temperature: Perth, 30·35 and 45°; Carnarvon, 30·10 and 73°.

South Australia.—Generally overcast and unsettled south of Farina, with light rain and showers along the coast; fresh to strong N.W. to S.W winds, risen barometers, and moderate to rough sea. Rain has fallen south of Blinman generally from 0·10 to 0·50 inch, but 0·98 at Crafers; 0·65 at Clarendon; Goolwa and Mount Gambier, 0·57; Melrose, 0·34; and Auburn, 0·31 inch. No reports from Northern Territory. Extremes of barometers and temperature: Farina, 30·24; M'Donnell Bay, 29·88 and 52°; Robe, 57°.

Victoria.—Generally overcast and showery, with fresh to strong westerly winds, fallen barometers, and moderate to rather rough sea; misty and squally in the Straits. Rainfall: Hamilton, 0·40; Portland, 0·39; Ballarat and Horsham, 0·18 inch. Extremes of barometers and temperature: Horsham, 30·00 and 61°; Lakes Entrance, 29·67; and Omeo, 46°.

Tasmania.—Generally cloudy and threatening, with misty rain at Southport; light to fresh variable winds and calms, fallen barometers, and rough sea. Rainfall: Low Heads, 0·43; Southport, 0·15; and Hobart, 0·01 inch. Extremes of barometers and temperature: Low Heads, 29·67 and 49°; Hobart, 29·59 and 51°.

New Zealand.—Generally fine, with light southerly winds and calms, and barometers at 30·3.

New South Wales.—Fine along the coast in N.W. parts; over the remainder of the colony cloudy and unsettled, with fogs and frosts at places, and more or less heavy rains falling in the districts of the Upper Murrumbidgee and Lachlan Rivers; light to fresh N.W. to W. winds, and moderate sea. During the night storms from N.W. occurred in the New England districts. During the previous 24 hours light rain fell generally, except in extreme N.W. and S.E. parts. Extra station:—Hill End, 0·10 inch rain. Extremes of barometers and temperature: Menindie, 30·14; Eden, 29·70; Clarence, 60°; and Cooma, 35° For further particulars see map.

Queensland.—In south parts more or less cloudy and unsettled, with light S.E. to S.W. winds or calms, almost steady barometers, and smooth sea. Rainfall: 0·01 inch at Brisbane. No reports from north parts. Extremes of barometers and temperature: Roma, 30·06 and 58°; Brisbane, 30·01; and Rockhampton, 67°.

3 P.M. OBSERVATIONS.

Victoria.—Portland, W., 28, cloudy and showery, smooth sea, temperature 57°; Cape Otway, N.N.W., 23, fine and clear, moderate sea, temperature 56°; Wilson's Promontory, W., 28, cloudy and squally, moderate sea, temperature 53°.

New South Wales.—Menindie, S.W., 14, dull, like rain, temperature 61°; Wentworth, W., 14, fine, temperature 54°; Deniliquin, S.W., cloudy and dull, temperature 62°; Eden, calm, fine, heavy east sea, temperature 61°; Moruya, E.S.E., 14, fine, smooth sea, temperature 61°; Cape St. George, W., 42, fine, partially cloudy, moderate sea, temperature 60°; Sydney, W., fine, partially cloudy, smooth sea; Newcastle, W., fine, smooth sea, temperature 64°; Port Macquarie, W., 14, fine and clear, smooth sea, temperature 69°; Clarence River, N.W., 14, fine, smooth sea, temperature 68°; Walgett, W., 14, fine and cold, temperature 61°; Dubbo, N.W., 14, raining, temperature 61°; Goulburn, N.W., 8, dull, temperature 60°.

Queensland.—Cooktown, fine and clear, moderate sea, temperature 79°; Normanton, S.E., fine and clear, temperature 94°; Rockhampton, 8, fine but cloudy, temperature 75°; Roma, calm, fine and clear, temperature 69°; Cape Moreton, S.E., 13, fine, temperature 71°.

HEIGHT OF RIVERS ABOVE SUMMER LEVEL.

Macintyre: At Mungindi, low. Barwon: At Mogil Mogil, low; at Walgett, 2 feet 10 inches. Namoi: At Walgett, 2 feet 6 inches. Culgoa: At Goodooga, low. Darling: At Brewarrina, low; at Bourke, 3 feet; at Louth, 5 feet 1 inch; at Tilpa, 6 feet 10 inches; at Wilcannia, 9 feet 6 inches; at Menindie, 25 feet 5 inches; at Pooncarie, 23 feet 10 inches; at Wentworth, 12 feet 2 inches. Murrumbidgee: At Gundagai, 3 feet; at Wagga, 3 feet; at Hay, 2 feet; at Balranald, 5 feet. Murray: At Albury, 2 feet 3 inches; at Euston, 5 feet 6 inches.

ASTRONOMICAL MEMORANDA FOR JUNE 6.

Sun rises at 7.0, sets at 4.56; Moon, 5.44 p.m., 6.26 a.m.; Mercury, 7.51 a.m., 5.31 p.m.; Venus, 10.5 a.m., 7.55 p.m.; Mars, 6.14 a.m., 4.15 p.m.; Jupiter, 2.16 p.m., 3.10 a.m.; Saturn, 9.38 a.m., 7.36 p.m. Full moon, 6th; new moon, 21st.

High water at Fort Denison, June 6: 8.22 a.m., 8.45 p.m.

H. A. LENEHAN,
Acting Government Astronomer.

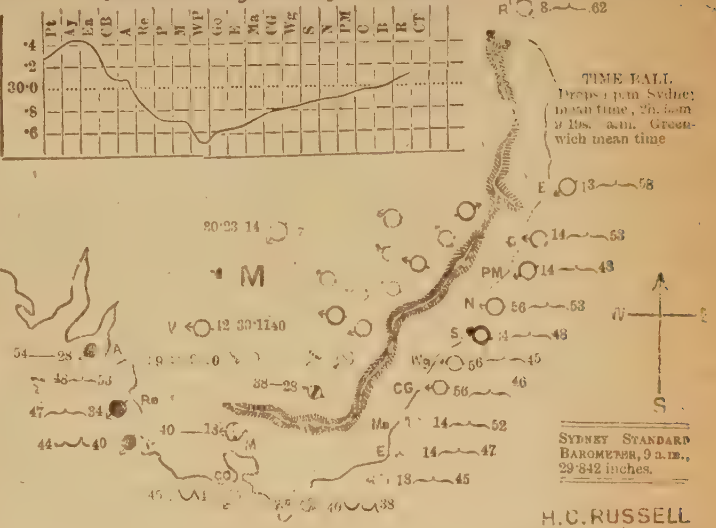
Albury	r	55	33	0·50
Armidale	c	53	31	0·02
Balranald	c	66	35	0·12
Bathurst	c	53	33	0
Bendem'r	c	65	39	0·06
Bodalla	b	62	36	0
Bourke	b	66	41	0
Buncarra	c	—	43	0
C'md'n H.	b	71	46	0
C. St. Geo.	b	65	48	0
Carcoar	b	[illegible]	[illegible]	0·35
Casino	b	72	[illegible]	0
Cassilis	b	54	35	0
Clarence	b	68	59	0
C'nd'b'lin	f	65	41	0·17
Cooma	c	55	28	0·05
Coonab'n.	s	57	37	0·01
Cowra	b	58	35	0·25
Cudg'llico	u	60	36	0·23
Deniliq'n.	c	65	31	0·26
Dubbo	b	58	35	0
Eden	b	55	42	0·07
Euston	c	60	32	0·17
Forbes	b	—	39	0·31
Glen Inn's	g	62	38	0
Goulburn	s	55	31	0.14
Grafton	b	70	48	0
Gulgong	u	55	31	0
Gunned'h	b	63	40	0
Hay	c	53	35	0·38
Inverell	u	58	43	0
Kiandra	s	41	21	0
Lismore	b	76	46	0
Maitland	b	65	49	0
M'n'ng H.	c	64	45	0
Marsdens.	b	60	42	0·27
Menindie.	b	63	42	0
Molong	b	40	33	0
M'r'ng'r'll	b	57	40	0·34
Moree	b	72	45	0
Moruya	b	63	43	0
Moss Vale	b	50	36	0·03
Mt. Hope	n	60	35	0·17
M. Vict'ria	s	48	28	0
Mudgee	b	66	34	0·16
M'rr'mb'h	c	56	37	0·34
M'rr'r'ndi	b	57	43	0·10
Mus'lbr'k	b	62	44	0·09
Narrabri	b	65	39	0
Newcastle	b	64	39	0
Orange	n	48	34	0·81
Picton	b	58	40	0
P. M'q'rie	b	63	42	0
P. St'ph'n	b	61	46	0
Q'nbeyan	b	49	29	0
Quirindi	b	66	40	0
Singleton	b	63	55	0
SYDNEY	b	60	47	0·01
Taralga	r	56	30	0·25
Taree	b	68	49	0
T'nt'rfield	b	66	33	0
Wagga	b	58	34	0·54
Walcha	r	56	34	0·01
Walgett	b	60	42	0
Warrah	—	—	—	—
W'ntw'rth	b	58	37	0·15
W'll'ng'ng	b	62	59	0
Young	u	63	35	0·58

SYDNEY OBSERVATORY.

LATITUDE 33° 51′ 41″ S. LONGITUDE 10h. 4m. 50·31s. E.
MAGNETIC VARIATION, 9° 35′ 37″ E.

Average Annual Rainfall for 28 years ... ... 49·48
Average for 29 years from Jan. 1 to May 31 1887 ... 25·493
Total Rainfall from Jan. 1, to June 6 1887 ...... 38·528
Barometers corrected to 32° F. h. and Mean Sea Level

Curve showing state of Barometer.



Fine, wind N. — Cloudy, wind E.
T. storm, wind S. — Rain, wind W.
If it is CALM, the symbol used without the arrow.
Smooth sea.
Heavy sea.
Very heavy sea.

TIME BALL.
Drops 1 p.m. Sydney mean time, 9h. 5m. 9·10s. a.m. Greenwich mean time

SYDNEY STANDARD BAROMETER, 9 a.m., 29·842 inches.

H. C. RUSSELL
GOVERNMENT ASTRONOMER

NOTES EXPLANATORY OF MAP.

In the list of stations the column headed W. gives the state of the weather at 9 a.m., b [illegible] sky; c, detached clouds; d, drizzling rain; f, fog; g, gloomy; h, hazy; m, misty; [illegible]; o, overcast; p, passing showers; r, rain; s, snow; t, thunder; u, threatening. The next column, M'x gives the maximum temperature for previous 24 hours. M'n the corresponding minimum temperature; R'n, the rain for the previous 24 hours. The symbols used in the map are explained on the margin. At each coast station the wind symbol is placed like a vane pointing to the direction from which the wind is coming. A [illegible] circle with it means fine weather; a circle with bar, cloudy weather; [illegible] raining. Next to this symbol are placed figures denoting the number of miles the wind is moving per hour; next, a symbol showing the state of the sea; and, lastly, figures denoting the shade temperature at 9 a.m. The barometer curve shows the state of barometers round the coast from Perth to Cooktown:—Pt, Perth; Ay, Albany; Ea, Eucla; CB, Cape Borda; A, Adelaide; Re, Robe; P, Portland; M, Melbourne; WP, Wilson's Promontory; Go, Gabo; E, Eden; Ma, Moruya; CG Jervis Bay; Wg, Wollongong; S, Sydney; N, Newcastle; PM, Port Macquarie; C, Clarence River; B, Brisbane; R, Rockhampton; Ct, Cooktown. Inland the state of barometer is given in figures at Albury, Deniliquin, Wentworth, Menindie, Bourke, and Alice Springs. The barometer curve enables one at a glance to trace the depressions, beginning with Western Australia, and passing along eastwards; northerly winds preceding them, and southerly following.

The rainfall on Sundays or holidays, when this map is not published, is in all cases included in the quantities shown by the next following map.

9 A.M. OBSERVATIONS.

Western Australia.—In south parts fine, but unsettled, with light N.E. winds, high and risen barometers, and smooth to moderate sea; no reports from the West Coast stations, north of Perth. Rainfall: Eucla, 0·17 inch. Extremes of barometers and temperature: Perth, 30·54 and 47·; Esperance Bay, 30·45 and 45·.

South Australia.—Generally more or less cloudy, with rain on and near the coast; fresh to strong N.W. to S.W. winds, and smooth to moderate sea. In Northern Territory fine, with fresh S.E. winds; on the south coast squally. Rainfall: Cape Borda, 0·76; Adelaide, 0·62; Wallaroo, 0·46; Port Lincoln, 0·40; Cape Northumberland, 0·33; and Streaky Bay, 0·30 inches. Barometers risen. Extremes of barometers and temperature: Eucla, 30·45; Cape Northumberland, 29·72 and 47·; Port Darwin, 76·.

Victoria.—Stormy weather, with heavy showers throughout; strong N.W. to S.W. winds, with fierce squalls at intervals, and heavy sea along the coast. Snowing at Omeo, Ballarat, and Wilson's Promontory. Rainfall: Portland 1·35, Cape Otway 1·06, Hamilton 0·91, Wilson's Promontory 1·08, and at other stations from 0·05 to 0·49 inches. Extremes of barometers and temperature: Ballarat 29·81, Wilson's Promontory 29·51, Horsham 55·, and Omeo 35·.

Tasmania.—Generally fine, but unsettled and cold, with showers on the north coast; light to fresh N. to W. winds, and in extreme south calm; very low barometers, and smooth to moderate sea. Extremes of barometers and temperature: Circular Heads 29·48, Falmouth 30·37 and 42·, Hobart 33·.

New Zealand.—Gloomy in extreme south, with fine weather to northward; light N. to N.E. winds, except in extreme north, where it blows strong from N.E. Barometers: In N.E. parts 30·1, in extreme north and over the centre 29·9, and in extreme south 29·7.

New South Wales.—Generally fine and cold, with clouds at places along the ranges and in S.W. parts; raining at Albury and Walcha: snowing along the ranges from Orange and Mount Victoria to Kiandra and Cooma. Kiandra reports eight inches snow on the ground, and Queanbeyan heavy snowstorm this morning. Winds fresh to strong from N.W. to S.W., blowing hard from west on the coast; the sea smooth to moderate. During the previous 48 hours light rains fell in the southern half of the colony; heaviest on the ranges. Extremes of barometers and temperature: Lismore, 55·; Kiandra, 23·; Menindie, 30·24; and Gabo Island, 29·61. For further particulars see map.

Queensland.—In south parts fine, with light to fresh S.E. to S.W. winds, fallen barometers, and smooth sea. Rainfall: Brisbane, 0·01 inch; no reports from north parts. Rockhampton fine, S.E. wind. Extremes of barometers and temperature: Roma, 30·12; Rockhampton, 29·58; Cape Moreton, 52·; and Rockhampton, 74·.

3 P.M. OBSERVATIONS.

Victoria.—Portland, S.W., 48, cloudy and showery, moderate sea, temperature 48·; Cape Otway, W., 56, showery and fierce squalls, smooth sea, temperature 47·; Melbourne, W., 18, fine, but cloudy, and squally, temperature 46·; Cape Schanck, S.W., 34, showery and squally, high sea, temperature 50·; Wilson's Promontory, S.W., 40, showery and squally, rough sea, temperature 43·; Lakes' Entrance, W.N.W., 28, showery and squally, temperature 48·.

New South Wales.—Menindie, N.W., 42, stormy and cold, temperature 57·; Wentworth, N.W., 42, overcast, cold, and like rain, temperature 47·; Deniliquin, N.W., 42, dull and cold, temperature 56·; Eden, W.S.W., 28, fine, but cloudy, light E. sea, temperature 50·; Moruya, N.W., 56, fine, smooth sea, temperature 5[illegible]·; Cape St. George, W., 42, cloudy, smooth sea, temperature 53·; Sydney, W.N.W., 38, fine, clear, and stormy, smooth sea, temperature 53·; Newcastle, W., 14, fine, smooth sea, temperature 55·; Port Macquarie, W., 28, fine, smooth sea, temperature 62·; Clarence River, W., 14, fine, smooth sea, temperature 67·; Walgett, W., 14, fine, temperature 62·; Dubbo, W., 28, fine, temperature 59·; Goulburn, N.W., 14, dull, temperature 57·.

Queensland.—Roma, S.W., 13, cloudy and squally, temperature 58·.

HEIGHT OF RIVERS ABOVE SUMMER LEVEL.

Macintyre: At Mungindi, low. Barwon: At Mogil Mogil, low; at Walgett, 2 feet 6 inches. Namoi: At Walgett, 2 feet 6 inches. Culgoa: At Goodooga, low. Darling: At Brewarrina, low; at Bourke, 2 feet 6 inches; at Louth, 4 feet 10 inches; at Tilpa, 6 feet 4 inches; at Wilcannia, 8 feet; at Menindie, 25 feet; at Pooncarie, 23 feet 10 inches; at Wentworth, 12 feet 2 inches. Murrumbidgee: At Gundagai, 4 feet 6 inches; at Wagga, 5 feet 6 inches; at Hay, 2 feet; at Balranald, 5 feet 6 inches. Murray: At Albury, 2 feet 11 inches; at Euston, 5 feet 6 inches.

ASTRONOMICAL MEMORANDA FOR JUNE 7.

Sun rises at 7.1, sets at 4.56; Moon 6.37 p.m., 7.28 a.m.; Mercury, 7.58 a.m., 5.36 p.m.; Venus, 10.5 a.m., 7.57 p.m.; Mars, 6.13 a.m., 4.13 p.m.; Jupiter, 2.11 p.m., 3.5 a.m.; Saturn, 9.31 a.m., 7.32 p.m. Full moon, 6th; new moon, 21st.

High water at Fort Denison, June 7: 9.7 a.m., 9.28 p.m.

H. A. LENEHAN,
Acting Government Astronomer.

Albury ..	—	—	—	—
Armidale	s	45	24	0·12
Balranald	b	61	35	0·02
Bathurst	s	43	32	0·30
Bendem'r	s	42	35	0·45
Bedalla ..	b	[illegible]	[illegible]	0·02
Bourke ..	c	69	46	0
Buncarra	s	—	43	0
C'md'n H.	b	61	43	0
C. St. Geo.	b	57	40	0
Carcoar ..	s	43	31	0·50
Casino ..	b	70	42	0
Cassilis ..	o	49	39	0·15
Clarence .	b	69	47	0
C'nd'b'lin	b	65	37	0·41
Cooma ..	c	54	27	0·04
Coonab'n.	b	53	36	0·11
Cowra ..	u	51	36	0·37
Cudg'llico	b	61	40	0·29
Deniliq'n.	c	67	33	0·02
Dubbo ..	c	52	33	0·32
Eden	b	53	38	0·26
Euston ..	b	59	4[illegible]	0·04
Forbes ..	u	-	39	0·1[illegible]
Glen Inn's	s	43	31	0·09
Goulburn	s	47	[illegible]	[illegible]

Grafton ..	b	67	40	0
Gulgong .	c	49	27	0
Gunned'h	b	57	42	0
Hay ...	b	60	47	0
Inverell ..	b	52	35	0
Kiandra ..	s	29	20	6
Lismore .	h	68	48	0
Maitland .	b	59	40	0·02
M'n'ng H.	b	54	43	0·02
Marsdens.	h	49	[illegible]	0·31
Menindie.	—	—	—	—
Molong ..	o	35	31	0·54
M'r'ng'r'll	b	54	36	0·29
Moree ..	g	71	40	0
Moruya ..	b	55	39	0
Moss Vale	n	41	33	0·07
Mt. Hope	n	54	37	0·10

M. Vict'ria	s	45	[illegible]	0
Mudgee ..	b	57	30	0·25
M'rr'mb'h	c	45	38	0·43
M'rr'r'ndi	s	49	38	0·40
Mus'lbr'k	b	64	37	0
Narrabri	r	56	41	0
Newcastle	b	65	31	0·10
Orange ..	n	48	41	0·76
Picton ..	b	52	40	0
P. M'q'rie	b	59	42	0
P. St'ph'n	b	55	38	0
Q'nbeyan	b	47	27	0·16
Quirindi	b	56	40	0·11
Singleton	b	54	44	0
SYDNEY ..	b	54	43	0·02
Taralga ..	b	43	28	0
Taree	b	61	44	0·03
T'nt'rfield	c	52	36	0
Wagga ..	b	46	28	0·25
Walcha ..	s	44	26	0
Walgett	b	53	45	0
Warrah ..	s	47	—	0
W'ntw'rth	c	57	40	0·03
W'll'ng'ng	b	59	47	0·08
Young ..	u	53	32	0·33

SYDNEY OBSERVATORY.

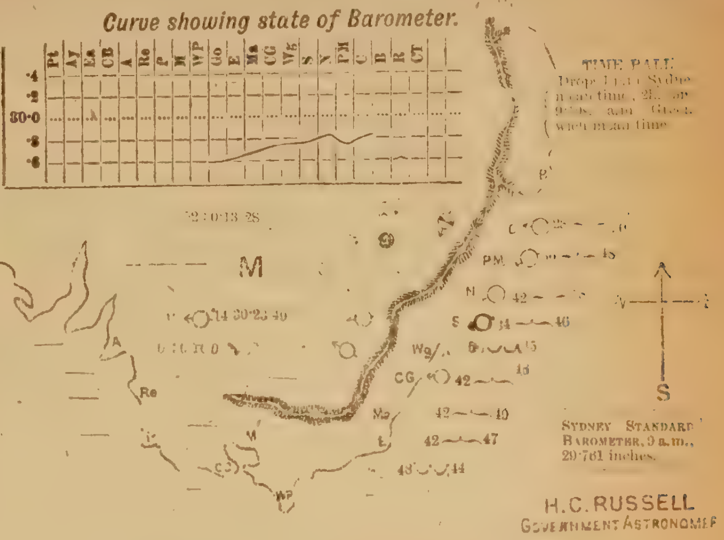
LATITUDE 33° 51' 41" S. LONGITUDE 10h. 4m. 50·81s. E.

MAGNETIC VARIATION, 9° 35' 37" E.

Average Annual Rainfall for 28 years .... 40·489
Average for 29 years from Jan. 1 to May 31 1887 .. 25·493
Total Rainfall from Jan. 1, to June 7 1887 .. [illegible]

Barometers corrected to 32° Fah. and Mean Sea Level

◯ wind N. Fine, wind E. Fair,
T. storm, wind S. Rain, wind W.
If it is CALM, the symbol used without the arrow.
Smooth sea.
Heavy sea.
Very heavy sea.



NOTES EXPLANATORY OF MAP.

In the list of stations the column headed W... gives the state of the weather at 9 a.m., b standing for blue sky; c, detached clouds; d, drizzling rain; f, fog; g, gloomy; h, hazy; m, misty; n, frosty; o, overcast; p, passing showers; r, rain; s, snow; t, thunder; u, threatening. The next column, M'x gives the maximum temperature for previous 24 hours. M'n the corresponding minimum temperature; R'n, the rain for the previous 24 hours. The symbols used in the map are explained on the margin. At each coast station the wind symbol is placed like a vane pointing to the direction from which the wind is coming. A clear circle with it means fine weather; a circle with bar, cloudy weather; and a black spot, raining. Next to this symbol are placed figures denoting the number of miles the wind is moving per hour; next, a symbol showing the state of the sea; and, lastly, figures denoting the shade temperature at 9 a.m. The barometer curve shows the state of barometers round the coast from Perth to Cooktown:—Pt, Perth; Ay, Albany; Ea, Eucla; CB, Cape Borda; A, Adelaide; Re, Robe; P, Portland; M, Melbourne; WP, Wilson's Promontory; Go, Gabo; E, Eden; Ma, Moruya; CG Jervis Bay; Wg, Wollongong; S, Sydney; N, Newcastle; PM, Port Macquarie; C, Clarence River; B, Brisbane; R, Rockhampton; Ct, Cooktown. Inland the state of barometer is given in figures at Albury, Deniliquin, Wentworth, Menindie, Bourke, and Alice Springs. The barometer curve enables one at a glance to trace the depressions, beginning with Western Australia, and passing along eastwards; northerly winds preceding them, and southerly following.

The rainfall on Sundays or holidays, when this map is not published, is in all cases included in the quantities shown by the next following map.

9 A.M. OBSERVATIONS.

Owing to interruptions to telegraph lines reports have been delayed from other colonies until night.

Western Australia.—Generally fine to south, cloudy, like rain at Ashburton, and squally with high sea at Cossack.

South Australia.—Generally overcast and unsettled south of Quorn, with light rain and showery to west, to south rain recorded 0·10 to 0·30 inch, at Craters 0·65 inch, and at Marrabel and Auguston 0·50 inch.

Victoria.—Generally squally and gloomy, with rough sea on coast.

Tasmania.—Cloudy and showery, and moderate sea.

New Zealand.—Passing showers from S.W., and rough sea in extreme north, fine over the centre, and in south gloomy with N.W. winds. Barometers: In north 29·7, over the centre 29·8, and in south 29·5.

New South Wales.—Generally stormy and cold, clear on and near the coast, more or less cloudy and unsettled west of the ranges. Raining steadily at Narrabri; snowing at Bendemeer, Sundarra, Goulburn, Glen Innes, Carcoar, and Mount Victoria, heavily at the two last mentioned. During the night snow fell at Armidale, Bathurst, Murrurundi, Taralga, Walcha, Warrah, Hill End, and Kiandra; at the last mentioned place it lies eighteen inches deep on the ground. In the eastern and central divisions the wind blows strong from N.W. to S.W. and S., and on the ranges and coast very strong westerly; but in extreme W. and S.W. parts the winds are light, with calms at places. During the previous 24 hours, light rains fell in the eastern and southern parts of the colony, but partially, the heaviest being at Gabo Island, 0·77 inch. During the 24 hours ending 9 a.m. to-day, the average hourly velocity of the wind at Sydney was 25 miles, with squalls of from 40 to 45 miles. To-day the average has been 30 miles per hour, with squalls of about 50 miles, which is equal to a pressure of 12.5 pounds per square foot. Extremes of barometers and temperature: Wentworth, 30·23; Gabo Island, 29·60; Newcastle, 58°; and Kiandra, 23°.

3 P.M. OBSERVATIONS.

New South Wales.—Moruya, S.W., 42, fine, smooth sea, temperature 73°; Cape St. George, S.W., 28, fine, smooth sea, temperature 56°; Sydney, W.S.W., 36, fine, cold, and stormy, smooth sea, temperature 52°; Newcastle, W., fine, moderate sea, temperature 59°; Port Macquarie, S.W., 56, fine, smooth sea, temperature 57°; Clarence River, S.W., 42, fine, smooth sea, temperature 59°; Walgett, S.W., 14, cloudy and cold temperature 54°; Dubbo, S.W., 14, fine, temperature 55°; Queanbeyan, N.W., 56, fine.

HEIGHT OF RIVERS ABOVE SUMMER LEVEL.

Macintyre: At Mungindi, low. **Barwon**: At Mogil Mogil, low; at Walgett, 2 feet 4 inches. **Namoi**: At Walgett, 2 feet 4 inches. **Culgoa**: At Goodooga, low. **Darling**: At Brewarrina, summer level; at Bourke, 2 feet 3 inches; at Louth, 4 feet 9 inches; at Tilpa, 6 feet 2 inches; at Wilcannia, 8 feet 6 inches; at Pooncarie, 23 feet 10 inches; at Wentworth, 13 feet 2 inches. **Murrumbidgee**: At Gundagai, 4 feet 10 inches; at Wagga, 6 feet; at Hay, 2 feet; at Balranald, 5 feet 6 inches. **Murray**: At Euston, 5 feet 6 inches.

ASTRONOMICAL MEMORANDA FOR JUNE 8.

Sun rises at 7.1, sets at 4.56; Moon 7.33 p.m., 8.27 a.m.; Mercury, 8.2 a.m., 5.40 p.m.; Venus, 10.5 a.m., 7.59 p.m.; Mars, 6.12 a.m., 4.12 p.m.; Jupiter, 2.7 p.m., 3.1 a.m.; Saturn, 9.31 a.m., 7.29 p.m. Full moon, 6th; new moon, 21st.

High water at Fort Denison, June 8: 9.49 a.m., 10.10 p.m.

H. A. LENEHAN,
Acting Government Astronomer.

METEOROLOGICAL ABSTRACT—MAY, 1887,

with results for the same month during the preceding 28 years.

—	Barometer at 32° Fah. and mn. sealev'l.	Temperature in Shade. Mean Max.	Mean Min.	Mean.	Rainfall. Amount Inches.	No. of days.
1887: May	30·131	62·1	50·9	56·5	9·196	16
Average for 29 years ...	30·082	65·1	51·8	58·5	5·119	16
Monthly Extremes: Highest ...	30·357	67·7	56·1	61·0	13·166	26
Year ...	1868	1885	1867	1867	1876	1884
Lowest ...	29·875	62·2	49·0	56·4	0·214	5
Year ...	1879	1879	1865	1861	1885	62' & '85

Wind.—Prevailing direction, W.; average prevailing direction, W.; May, 1887, mean miles per hour 9·2.

Temperature.—Highest shade temperature, 70·6 on the 2nd; highest shade temperature in any May since 1859, 83.5 on the 1st, 1859. Lowest shade temperature, 42·6 on the 14th; lowest shade temperature in any May since 1859, 40·2 on the 22nd, 1859.

Rainfall.—Greatest fall in one day 2·827 on the 29th; greatest fall in one day in any May since 1859, 4·370 on the 8th, 1869.

H. A. LENEHAN, Acting Government Astronomer.
Sydney Observatory, June 7th, 1887.

Armid...			
Balranald	c	60 40	0
Bathurst	r	45 33	0·02
Bendem'r	u	64 35	0·02
Bodalla	b	59 42	0
Bourke	b	62 46	0
Bungarree	b		
C'md'n H.	b	61 47	0
C. St. Geo.	b	57 45	0
Carcoar	r	42 29	0.20
Casino	b	64 31	0
Cassilis			
Clarence	b	64 46	0
C'nd'b'lin	u	65 43	0
Coonamble			
Coonab'n			
Cowra	c	47 40	0
Cudg'llico	u	71 41	0
Deniliquin			
Dubbo			
Eden			
Euston	c		
Forbes			
Glen Inn's	b		
Goulburn	b		
EUCLA			
Grafton	b	66 37	0
Gulgong	u	47 31	0
Gunned'h	c	58 39	0
Hay	c	52 30	0
Inverell	b	49 34	0
Kiandra	s	35 —	0
Lismore	b	64 38	0
Maitland	b	55 40	0
M'n'ng H.	b	55 47	0
Marsdens	g	51 43	0
Menindie	b	56 46	0
Molong	c	44 33	0
M'r'ng'r'll	u	61 44	0
Moree	o	63 35	0
Moruya	b	57 42	0
Moss Vale	b	44 35	0
Mt. Hope		57 50	0
M. Vict'ria	u	48 25	0
Mudgee	b	53 33	0
M'rr'mb'h	u	49 36	0·03
M'rr'r'ndi	b	48 39	0
Mus'lbr'k	b	63 37	0
Narrabri	b	49 35	0
Newcastle	b	61 32	0
Orange	c	70 32	0·03
Picton	b	50 43	0
P. M'q'rie	b	56 42	0
P. St'ph'n	b	54 41	0
Q'nbeyan	n	50 30	0
Quirindi	n	52 37	0
Singleton	b	3 44	0
Sydney	b	52 45	0
Taralga	b	41 28	0
Taree	b	58 43	0
T'nt'rfi'ld			0
Wagga			0
Walcha	s	37 27	0·40
Walgett	b	55 39	0
Warrah	b	53	0
W'ntw'rth	g	58 48	0
W'll'ng'ng	b	62 49	0
Young	c	52 35	0·05

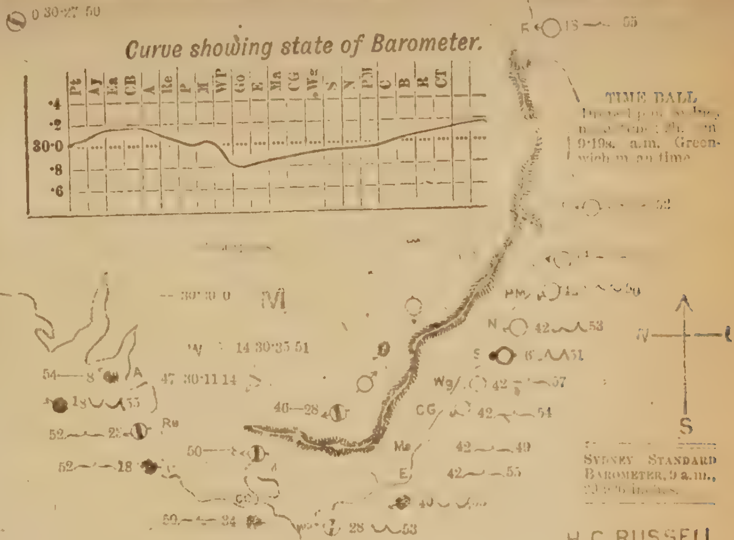
Lat. ... Long. ...

Magnetic Variation, 9 35 37' E.

Average Annual Rainfall for 28 years .... 49·489
Average for 29 years from Jan. 1 to May 31 1887 .. 25·493
Total Rainfall from Jan. 1, to June 8 1887 .... 33·553

Barometer corrected to ... Mean Sea Level

wind N. ... wind E. T. storm, wind S. Rain, wind ...
If it is CALM, the symbol used without the arrow
Smooth sea.
Heavy sea.
Very heavy sea.



H. C. RUSSELL
GOVERNMENT ASTRONOMER

NOTES EXPLANATORY OF MAP.

In the list of stations the column headed W. gives the state of the weather at 9 a.m., b standing for blue sky; c, cloudy; d, drizzling rain; f, fog; g, gloomy; h, hazy; m, misty; r, frosty; o, overcast; p, passing showers; r, rain; s, snow; t, thunder; u, threatening. The next column, Mx gives the maximum temperature for previous 24 hours. Mn the corresponding minimum temperature; Rn, the rain for the previous 24 hours. The symbols used on the map are explained on the margin. At each constellation the wind symbol is placed like a vane pointing to the direction from which the wind is coming. A calm circle with it means fine weather; a circle with bar, cloudy weather; and a black spot, raining. Next to this symbol are placed figures denoting the number of miles the wind is moving per hour; next, a symbol showing the state of the sea ... the ... curve shows the state of barometers round the coast from Perth to Cooktown: Pt, Perth; Ay, Albany; Ea, Eucla; CB, Cape Borda; A, Adelaide; Re, Robe; P, Portland; M, Melbourne; WP, Wilson's Promontory; Go, Gabo; E, Eden; Ma, Moruya; CG Jervis Bay; ... S, Sydney; N, Newcastle; PM, Port Macquarie; C, ... R, ... CT, Cooktown ... spring. The barometer curve ... at a glance to trace the depressions, beginning with Western Australia, and passing along eastwards, northerly winds preceding them, and southerly following.

The rain fall on Sundays or holidays, when this map is not published, is in all cases included in the quantities shown by the next following map.

9 A.M. OBSERVATIONS.

Western Australia.—Showery at Cossack and Albany; threatening at Carnarvon, and at other stations fine. Light N. to E. winds generally, but strong at Cossack and Albany; the sea moderate to rather rough. Rainfall: Ashburton, 0·68; and Cossack, 0·56 inches. Extremes of barometers and temperature: Albany, 30·08; Ashburton, 29·87; Carnarvon, 73·; and Perth, 42·.

South Australia.—Generally overcast and gloomy, but clearing south of Beltana, with light N.W. to S.W. winds and at places calms, fallen barometers, and moderate to rough sea. Rain has fallen on and near the coast, generally from 0·5 to 0·15; but 0·34 inch at Crafers, and 0·24 at Clarendon. Still showery in S.E. parts. Extremes of barometers and temperature: Farina, 30·33; Port Darwin, 30·02 and 72·; Eucla, 48·.

Victoria.—Passing showers of misty rain, overcast and gloomy throughout, with light to fresh westerly winds, risen barometers, and moderate to rough sea. Squally and misty in the Straits. Rainfall: Wilson's Promontory, 0·33; Omeo, 0·30; Cape Otway, 0·17; Ballarat, 0·16; and from 0·07 to 0·11 at other stations. Extremes of barometers and temperature: Horsham, 30·12 and 57·; Lakes Entrance, 29·88; and Omeo, 40·.

Tasmania.—Generally cloudy and gloomy, with passing showers at Circular Head, fresh westerly winds in north, calms in south; low and steady barometers, and moderate to rough sea. Rainfall: Circular Head, 0·16; and Southport, 0·10 inches. Extremes of barometers and temperature: Circular Head, 29·85; Hobart, 29·72 and 48·; Low Heads, 51·.

New Zealand.—Fine in extreme north and south, with N.E. winds; cloudy, with strong N.W. winds at Gisborne; showery and calm at Wellington. Barometers: In N.E., 29·8; in north and over centre, 29·6; and in south, 29·5.

New South Wales.—Fine along the coast and in N.W. parts; cloudy and gloomy west of the ranges, and in extreme S.E. parts. Raining more or less heavily in the districts between the Upper Lachlan, Bogan, and Macquarie Rivers, and passing showers at Gabo Island. Snowing at Kiandra, two feet of snow on the ground; also snow on the ground at Walcha. During the previous 24 hours light rains fell along the ranges, but partially; heaviest 0·60 at Gabo Island, and 0·40 at Walcha. Winds light westerly inland, but strong on and near the coast. The sea moderate but rough from Sydney to Port Macquarie and off Gabo Island. Extra Stations: Hill End, raining steadily. Tamworth, max. 49, min. 37, and dull; Brewarrina, max. 56, min. 21, and fine. Extremes of barometers and temperature: Wentworth, 30·35; Gabo Island, 29·74. Wollongong 57, and Kiandra 33·. For further particulars see map.

Queensland.—Generally fine and cold, with light S.E. winds in north, and westerly winds in south parts; smooth sea. No rain reported. Extremes of barometers and temperature: Roma, 30·23 and 46·; Brisbane, 30·02, and Cooktown 78·.

3 P.M. OBSERVATIONS.

Victoria.—Cape Schanck, W.N.W., 23, overcast and misty, rough sea, temperature 55·; Cape Otway, N.W., 34, passing showers and smooth sea, temperature 53·; Melbourne, W.S.W., 8, foggy and gloomy, temperature 54·; Portland, W.N.W., 34 fine, smooth sea, temperature 58·; Wilson's Promontory, W., 28, showery and squally, rough sea, temperature 54·; Lakes' Entrance, W., 23, squally and cloudy, temperature 57·.

New South Wales.—Menindie, N.W., 14, overcast and dull, temperature 52·; Wentworth, W., 14, fine, but cloudy, temperature 59·; Deniliquin, calm, dull, temperature 59·; Eden, W.S.W., 42, fine but cloudy, light E. sea, temperature 56·; Moruya, S.W., 28, fine, smooth sea, temperature 63·; Cape St. George, S.W., 28, moderate sea, temperature 61·; Sydney, W., 23, fine but cloudy, heavy S.E. sea, temperature 59·; Newcastle, W., 14, fine, heavy sea, temperature 66·; Port Macquarie, S.W., 42, fine and clear, moderate sea, temperature 62·; Clarence River, W.S.W., 28, fine, moderate sea, temperature 63·; Goulburn, N.W., 14, fine, temperature 57·; Balranald, N.W., 14, cloudy, dull, and cold.

Queensland.—Normanton, S.E., fine and clear, temperature 70·.

HEIGHT OF RIVERS ABOVE SUMMER LEVEL

Macintyre: At Mungindi, low. Barwon: At Mogil Mogil, low; at Walgett, 2 feet. Namoi: At Walgett, 2 feet. Culgoa: At Goodooga, low. Darling: At Brewarrina, low; at Bourke, 2 feet; at Louth, 4 feet 7 inches; at Tilpa, 6 feet 1 inch; at Wilcannia, 4 feet 7 inches; at Menindie, 21 feet 5 inches; at Pooncarie, 23 feet 10 inches; at Wentworth, 13 feet 2 inches. Murrumbidgee: At Gundagai, 5 feet 3 inches; at Wagga, 7 feet 1 inches; at Hay, 2 feet 5 inches; at Balranald, 5 feet 4 inches. Murray: At Albury, 4 feet 1 inch; at Euston, 5 feet 6 inches.

ASTRONOMICAL MEMORANDA FOR JUNE 9.

Sun rises at 7.2, sets at 4.56; Moon 8.30 p.m., 9.19 a.m.; Mercury, 8.7 a.m., 5.45 p.m.; Venus, 10.5 a.m., 8 p.m.; Mars, 8.11 a.m., 4.11 p.m.; Jupiter, 2.3 p.m., 2.57 a.m.; Saturn, 9.27 a.m., 7.25 p.m. Full moon, 6th; new moon, 21st.

High water at Fort Denison, June 9: 10.20 a.m., 10.30 p.m.

H. A. LENEHAN,
Acting Government Astronomer.

Albury ..	c	51	45	0·05
Armidale	b	44	37	0
Balranald	g	63	35	0
Bathurst	b	49	38	0·01
Bendem'r	f	48	32	0
Bodalla..	b	64	30	0
Bourke ..	b	68	38	0
Buncarra	n	—	34	0
C'md'n H.	b	64	52	0
C. St. Geo.	b	65	43	0
Carcoar ..	b	45	29	0.05
Casino ..	b	64	35	0
Cassilis ..	b	52	35	0
Clarence ..	b	63	46	0
C'nd'b'lin	g	67	41	0
Cooma ..	n	56	23	0
Coonab'n.	n	58	23	0
Cowra ..	b	50	41	0
Cudg'llico	b	73	41	0
Deniliq'n.	c	60	38	0
Dubbo ..	b	56	32	0
Eden	b	59	44	0
Euston ..	n	60	38	0
Forbes ..	b	—	41	0
Glen Inn's	n	47	29	0
Goulburn	g	50	34	0

18——50
EUCLA

Grafton ..	n	69	39	0
Gulgong .	b	50	28	0
Gunned'h	b	57	34	0
Hay	c	54	39	0
Inverell ..	n	52	29	0
Kiandra ..	n	41	27	0
Lismore .	b	71	40	0
Maitland .	b	59	42	0
M'n'ng H.	b	62	46	0
Marsdens.	f	56	45	0
Menindie.	g	69	43	0
Molong ..	b	50	36	0
M'r'ng'r'll	f	54	43	0
Moree ..	b	67	32	0
Moruya ..	b	65	41	0
Moss Vale	b	49	38	0
Mt. Hope	b	56	41	0
M. Vict'ria	b	46	31	0
Mudgee ..	n	59	30	0
M'rr'mb'h	c	47	38	0
M'rr'r'ndi	n	51	36	0
Mus'lbr'k	b	62	34	0
Narrabri	b	59	32	0
Newcastle	b	69	34	0
Orange ..	b	45	37	0
Picton ..	n	53	34	0
P. M'q'rie	b	63	43	0
P. St'ph'n	b	61	43	0
Q'nbeyan	n	59	30	0
Quirindi	n	61	34	0
Singleton	b	50	45	0
SYDNEY ..	b	61	46	0
Taralga ..	b	61	30	0
Taree	b	65	56	0
T'nt'rfield	b	53	26	0
Wagga ..	f	52	34	0
[illegible]	g	40	27	0·08
Walgett	b	60	44	0
Warrah ..	n	52	—	0
W'ntw'rth	g	59	42	0
W'll'ng'ng	b	63	52	0
Young ..	f	50	36	0·02

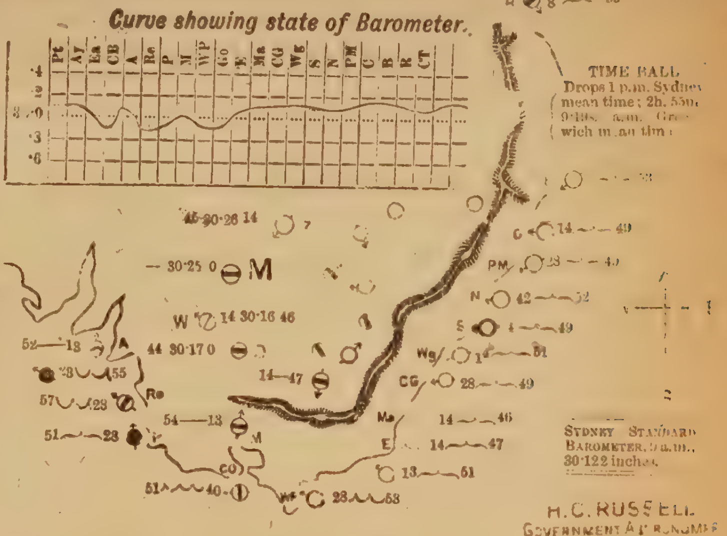
SYDNEY OBSERVATORY.

LATITUDE 33° 51' 41" S. LONGITUDE 10h. 4m. 50·31s. E.
MAGNETIC VARIATION, 9° 35' 37" E.

Average Annual Rainfall for 28 years ....49·489
Average for 29 years from Jan. 1 to May 31 1887 .. 25·493
Total Rainfall from Jan. 1, to June 9 1887 ...... 33.553

Barometers corrected to 32° Fah. and Mean Sea Level

Fine, wind N. Cloudy, wind E.
T. storm, wind S. Rain, wind W.
If it is CALM, the symbol used without the arrow
Smooth sea.
Heavy sea
Very heavy sea



H. C. RUSSELL.
GOVERNMENT ASTRONOMER.

NOTES EXPLANATORY OF MAP.

In the list of stations the column headed W. T. gives the state of the weather at 9 a.m., b standing for blue sky; c, detached clouds; d, drizzling rain; f, fog; g, gloomy; h, hazy; m, misty; n, frosty; o, overcast; p, passing showers; r, rain; s, snow; t, thunder; u, threatening. The next column, M'x gives the maximum temperature for previous 24 hours. M'n the corresponding minimum temperature; R'n, the rain for the previous 24 hours. The symbols used in the map are explained on the margin. At each coast station the wind symbol is placed like a vane pointing to the direction from which the wind is coming. A clear circle with it means fine weather; a circle with bar, cloudy weather; and a black spot, raining. Next to this symbol are placed figures denoting the number of miles the wind is moving per hour; next, a symbol showing the state of the sea; and, lastly, figures denoting the shade temperature at 9 a.m. The barometer curve shows the state of barometers round the coast from Perth to Cooktown:—Pt, Perth; Ay, Albany; Ea, Eucla; CB, Cape Borda; A, Adelaide; Be, Robe; P, Portland; M, Melbourne; W P, Wilson's Promontory; Go, Gabo; E, Eden; Ma, Moruya; CG Jervis Bay; Wg, Wollongong; S, Sydney; N, Newcastle; PM, Port Macquarie; C, Clarence River; B, Brisbane; R, Rockhampton; Ct, Cooktown. Inland the state of barometer is given in figures at Albury, Deniliquin, Wentworth, Menindie, Bourke, and Alice Springs. The barometer curve enables one at a glance to trace the depressions, beginning with Western Australia, and passing along eastwards; northerly winds preceding them, and southerly following.

The rainfall on Sundays or holidays, when this map is not published, is in all cases included in the quantities shown by the next following map.

9 A.M. OBSERVATIONS.

Western Australia.—Generally fine, but unsettled, with light east winds on the west coast and westerly winds in south; light rain at Albany; 0.03 inch fallen at Esperance Bay; the sea smooth to moderate. Extremes of barometers and temperature: Albany, 30·08; Carnarvon, 29·89 and 74·; and Perth, 50·.

South Australia.—Overcast, threatening, and cold south of Tennant's Creek, with fresh to strong N. to N.W. winds, fallen barometers, and rough sea; in extreme north fine, with N.E. to S.E. winds. Rain has fallen in S.E. parts, heaviest at Blackport, 1·37; Millicent, 1·07; Cape Borda, 0·88; Robe, 0·64; and Cape Northumberland, 0·53 inches. Extremes of barometers and temperature: Farina, 30·23; Cape Northumberland, 29·83 and 52·; Port Darwin, 74·.

Victoria.—Generally overcast and gloomy, with fresh to strong N. to W. winds, fallen barometers, and rough sea. Passing showers along the coast; fierce squalls at Wilson's Promontory; and at Cape Otway the gale is increasing and the sea rising. Rains fallen, generally from 0·01 to 0·20 inches. Extremes of barometers and temperature: Hersham, 30·14 and 55·; Portland, 29·87; Omeo and Ballarat, 45·.

Tasmania.—Showery on the north coast, more or less cloudy in south parts, with fresh to strong N. to N.W. winds, fallen barometers, and moderate to rough sea. Rainfall: Circular Heads, 0·23; and Southport, 0·05 inches. Extremes of barometers and temperature: Low Heads, 29·82; Southport, 29·64; Falmouth, 54·; and Circular Heads, 48·.

New Zealand.—Fine generally, with calms and N.E. winds; thunder showers [illegible] in extreme north. Barometers: In north, [illegible] the centre and in south, 29·7.

N[illegible]ally fine, except in S. and S.W. parts, whe[illegible]. Foggy and frosty on and near the [illegible]h westerly, but variable winds and calms [illegible]. During the previous 24 hours light rain fell at a [illegible]ered stations along the ranges; heaviest [illegible]. Extra Station: Gabo Island, 0·15 inch rain [illegible] of barometers and temperature: Walgett, [illegible]nd, 29·92; Newcastle, 52·; and Cooma, 24· [illegible]s see map.

Queensland.—[illegible]ne, but unsettled, and in west parts cloudy; light S.E. winds and calms, risen barometers, and moderate sea, but rough at Cooktown. No rain reported. Extremes of barometers and temperature: Roma, 30·20 and 46·; Cooktown 30·09 and 78·.

3 P.M. OBSERVATIONS.

New South Wales.—Menindie, N.W., 23, overcast and dull, temperature 57·; Wentworth, N.W., 14, overcast and dull, temperature 50·; Deniliquin, calm, cloudy, and dull, temperature 58·; Eden, N.E., 14, fine, smooth sea, temperature 60·; Moruya, N., 14, fine but cloudy, smooth sea, temperature 64·; Cape St. George, W., 28, fine, smooth sea, temperature 59·; Sydney, W., 9, fine, and pleasant, moderate sea, temperature 57·; Newcastle, W., 14, fine, moderate sea, temperature 62·; Port Macquarie, calm, fine and clear, modrate sea, temperature 65·; Clarence River, S., 14, fine, smooth sea, temperature 63·; Dubbo, W., 14, fine, temperature 60·; Goulburn, N.W., 14, fine, temperature 58·.

Queensland.—Normanton, S.E., 8, hazy and sultry, temperature 88·; Townsville, S.E., 18, fine and clear, temperature 70·; Rockhampton, S.S.W., 13, fine and clear, temperature 65·; Brisbane, calm, fine, and clear, temperature 63·.

HEIGHT OF RIVERS ABOVE SUMMER LEVEL.

Macintyre: At Mungindi, low. Barwon: At Mogil Mogil, low; at Walgett, 1 foot 6 inches. Namoi: At Walgett, 1 foot 6 inches. Culgoa: At Goodooga, low. Darling: At Brewarrina, low; at Bourke, 1 foot 9 inches; at Louth, 4 feet 6 inches; at Tilpa, 5 feet 10 inches; at Wilcannia, 8 feet 2 inches; at Menindie, 24 feet 5 inches; at Pooncarie, 23 feet 9 inches; at Wentworth, 12 feet 2 inches. Murrumbidgee: At Gundagai 6 feet; at Wagga, 8 feet; at Hay, 2 feet 6 inches; at Balranald, 5 feet 3 inches. Murray: At Albury, 4 feet 6 inches; at Euston, 5 feet 6 inches.

ASTRONOMICAL MEMORANDA FOR JUNE 10.

Sun rises at 7.2, sets at 4.56; Moon 9.27 p.m., 10.6 a.m.; Mercury, 8.11 a.m., 5.49 p.m.; Venus, 10.5 a.m., 8.2 p.m.; Mars, 6.10 a.m., 4.10 p.m.; Jupiter, 1.59 p.m., 2.5 a.m.; Saturn, 9.24 a.m., 7.22 p.m. Full moon, 6th; new moon, 21st.

High water at Fort Denison, June 10: 11.10 a.m., 11.30 p.m.

H. A. LENEHAN,
Acting Government Astronomer.

Stations.	W.T.	M'x	M'n	R'n.
Albury ..	r	59	47	0·10
Armidale	b	53	33	0
Balranald	g	66	34	0
Bathurst	f	54	33	0
Bendem'r	u	57	29	0
Bodalla ..	g	66	30	0
Bourke ..	c	67	46	0
Buucarra	n	—	36	0
C'md'n H.	b	65	46	0
C. St. Geo.	c	66	47	0
Carcoar ..	b	47	31	0
Casino ..	o	71	41	0
Cassilis ..	c	53	38	0
Clarence .	b	66	46	0
C'nd'b'lin	g	62	45	0
Cooma ..	u	56	31	0
Coonab'n.	n	65	30	0
Cowra ..	b	54	40	0
Cudg'llico	g	62	45	0
Deniliq'n.	g	63	45	0
Dubbo ..	b	62	37	0
Eden	u	60	45	0
Euston ..	b	63	44	0.04
Forbes ..	b	—	42	0
Glen Inn's	n	58	39	0
Goulburn	g	50	36	0
Grafton ..	n	72	40	0
Gulgong .	u	55	33	0
Gunned'h	b	58	36	0
Hay ..	c	54	40	0·01
Inverell ..	n	56	28	0
Kiandra ..	f	41	30	0
Lismore .	c	75	50	0
Maitland .	g	53	44	0
M'n'ng H.	c	61	42	0
Marsdens.	n	55	45	0
Menindie.	g	60	47	0
Molong ..	u	49	35	0
M'r'ng'r'll	g	53	45	0
Moree ..	—	—	—	—
Moruya ..	g	65	46	0
Moss Vale	u	49	41	0
Mt. Hope	u	60	46	0
M. Vict'ria	g	50	34	0
Mudgee ..	n	59	30	0
M'rr'mb'h	f	49	37	0
M'rr'r'ndi	b	54	40	0
Mus'lbr'k	g	61	39	0
Narrabri	-	—	—	-
Newcastle	g	63	38	0
Orange ..	b	48	36	0
Picton ..	-	—	—	-
P. M'q'rie	b	62	42	0
P. St'ph'n	b	58	43	0
Q'nbeyan	g	61	35	0
Quirindi	n	67	37	0
Singleton	g	51	49	0
Sydney ..	c	58	46	0
Taralga ..	b	62	38	0
Taree	b	66	46	0
T'nt'rfield	c	63	35	0
Wagga ..	c	54	38	0
Walcha ..	b	53	25	0
Walgett	b	61	34	0
Warrah ..	n	59	—	0
W'ntw'rth	g	56	45	0
W'll'ng'ng	g	66	50	0
Young ..	b	51	35	0

SYDNEY OBSERVATORY.

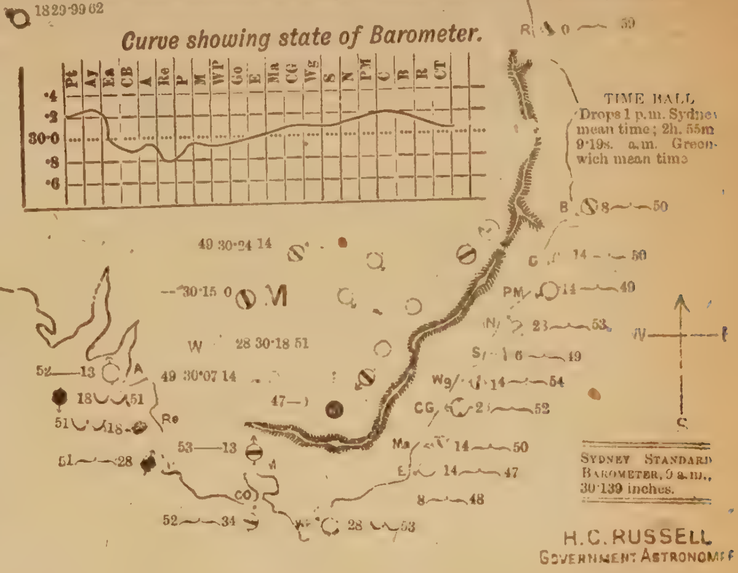
LATITUDE 33° 51' 41" S. LONGITUDE 10h. 4m. 50·51s. E.

MAGNETIC VARIATION, 9° 35' 37" E.

Average Annual Rainfall for 28 years.............. 49·489
Average for 29 years from Jan. 1 to May 31 1887 .. 25·193
Total Rainfall from Jan. 1, to June 10 1887 ...... 33.553

Barometers corrected to 32° Fah. and Mean Sea Level

Fine, wind N. Cloudy, wind E. T. storm, wind S. Rain, wind W.
If it is CALM, the symbol used without the arrow
Smooth sea.
Heavy sea
Very heavy sea.



NOTES EXPLANATORY OF MAP.

In the list of stations the column headed W.T. gives the state of the weather at 9 a.m., b standing for blue sky; c, detached clouds; d, drizzling rain; f, fog; g, gloomy; h, hazy; m, misty; n, frosty; o, overcast; p, passing showers; r, rain; s, snow; t, thunder; u, threatening. The next column, M'x gives the maximum temperature for previous 24 hours. M'n the corresponding minimum temperature; R'n, the rain for the previous 24 hours. The symbols used in the map are explained on the margin. At each coast station the wind symbol is placed like a vane pointing to the direction from which the wind is coming. A clear circle with it means fine weather; a circle with bar, cloudy weather; and a black spot, raining. Next to this symbol are placed figures denoting the number of miles the wind is moving per hour; next, a symbol showing the state of the sea; and, lastly, figures denoting the shade temperature at 9 a.m. The barometer curve shows the state of barometers round the coast from Perth to Cooktown:- Pt, Perth; Ay, Albany; Ea, Eucla; CB, Cape Borda; A, Adelaide; Re, Robe; P, Portland; M, Melbourne; WP, Wilson's Promontory; Go, Gabo; E, Eden; Ma, Moruya; CG Jervis Bay; Wg, Wollongong; S, Sydney; N, Newcastle; PM, Port Macquarie; C, Clarence River; B, Brisbane; R, Rockhampton; Ct, Cooktown. Inland the state of barometer is given in figures at Albury, Deniliquin, Wentworth, Menindie, Bourke, and Alice Springs. The barometer curve enables one at a glance to trace the depressions, beginning with Western Australia, and passing along eastwards; northerly winds preceding them, and southerly following.

The rainfall on Sundays or holidays, when this map is not published, is in all cases included in the quantities shown by the next following map.

9 A.M. OBSERVATIONS.

Western Australia.—Fine on west coast, passing showers and light rain in south parts; light to fresh east to S.E. winds; risen barometers and moderate sea. Rainfall: Esperance Bay, 0·31 and Albany, 0.32 inches. Extremes of barometers and temperature: Albany, 30·28; Cossach, 29.91; Carnarvon, 73° and Perth, 43°.

South Australia.—Generally overcast and gloomy south of Tennant's Creek, with light rain in scattered places; light to fresh N. to W. winds; fallen barometers and sea moderate to rough; steady and more or less heavy rains in S.E. parts. During previous 24 hours light rains fell on and near the coast, and in S.E. parts between Burra and Farina, heaviest at Beachfort and Willoughby, 0·87 inches. Port Lincoln reports 0·69, Cape Borda 0·52, Robe 0·50, and at other stations smaller quantities. Extremes of barometers and temperature: Daly Waters, 30·06; Robe, 29·83; Port Darwin, 76°; Cape Northumberland, 49°.

New South Wales.—Fine and clear in N.E.; fine, but more or less cloudy, in S.E. parts; over the remainder of the colony dull, gloomy, and threatening weather prevails; light, variable, chiefly N. to W. winds, with calms at places; frosty and foggy along the ranges. Barometers almost steady; the sea smooth to moderate. During the previous 24 hours light showers passed along the Victorian border; the heaviest fall is reported from Albury, where it is still raining. Extremes of barometers and temperature: Walgett, 30·24; Gabo Island, 29·95; Wollongong, 54°; and Armidale, 33°.

Queensland.—Generally threatening, gloomy, and cold, except in N.E. parts, where it is fine; light S.E. to S.W. winds, and at places calms, higher barometers, and smooth to moderate sea; no rain reported. Extremes of barometers and temperature; Roma, 30·21 and 51°; Normanton, 30·08; and Cooktown, 79°.

Victoria.—Cloudy on the coast, with showers in west parts; fine, but more or less cloudy inland; fresh to strong northerly winds, steady barometers, and sea moderate to rough; fierce squalls reported from the straits. Rainfall: Echuca, 0·10, and Portland 0·05 inches. Extremes of barometers and temperature: Echuca, 30·11; Portland, 29·81; Horsham, 57°; and Omeo 41°.

Tasmania.—More or less cloudy on north coast; gloomy and threatening in south parts, fresh to strong northerly winds, risen barometers, and the sea moderate to rough. Rainfall: Circular Heads, 0·93; and Southport, 0·03 inches. Extremes of barometers and temperature: Low Heads, 29·91 and 56°; Falmouth, 29·74; and Hobart, 47°.

New Zealand.—Fine in north, with N.E. winds; more or less cloudy over the centre, with S.W. winds; light rain from S.W. in extreme south ports. Barometers: Over the centre, 29·6; in north, 29·7, and in south, 29·8.

3 P.M. OBSERVATIONS.

Victoria.—Portland, N.N.W., 18, light rain, smooth sea, temperature 55°; Cape Otway, N.W., 18, gloomy, sea rough, temperature 56°; Melbourne, N.N.E., 13, cloudy and gloomy, temperature 55°; Cape Schanck, N., 23, fine, squally, sea smooth, temperature 56°; Wilson's Promontory, N., 8, fine, but cloudy, smooth sea, temperature, 59°; Lakes' Entrance, calm, cloudy, temperature 57°.

New South Wales.—Menindie, calm, 23, overcast and dull, temperature 60°; Wentworth, N.W., 14, overcast and dull, temperature 51°; Deniliquin, calm, dull, temperature 60°; Eden, E., 14, fine but cloudy, smooth sea, temperature 60°; Moruya, W., 14, overcast and gloomy, smooth sea, temperature 58°; Cape St. George, W., 42, dull, smooth sea, temperature 59°; Sydney, W., 1, fine but cloudy, smooth sea, temperature 56°; Newcastle, W., 14, fine, smooth sea, temperature 66°; Port Macquarie, N.E., 14, fine and clear, smooth sea, temperature 65°; Clarence River, N.E., 14, fine, smooth sea, temperature 64°; Walgett, calm, cloudy, temperature 63°; Dubbo, S., 14, fine, temperature 61°; Goulburn, calm, dull, temperature 60°.

Queensland.—Cooktown, S.E., 8, fine and clear, moderate sea, temperature 77°; Normanton, S.E., fine but cloudy, temperature 90°; Townsville, S.E., 13, fine and clear, slight sea, temperature 70°; Roma, calm, overcast and gloomy, temperature 63°; Brisbane, S., 8, overcast and gloomy, temperature 63°.

HEIGHT OF RIVERS ABOVE SUMMER LEVEL.

Macintyre: At Mungindi, low. Barwon: At Mogil Mogil, low; at Walgett, low. Namoi: At Walgett, low. Culgoa: At Goodooga, low. Darling: At Brewarrina, low; at Bourke, 1 foot 6 inches; at Louth, 4 feet 5 inches; at Tilpa, 5 feet 8 inches; at Wilcannia, 8 feet 1 inch; at Menindie, 21 feet 3 inches; at Pooncarie, 23 feet 9 inches; at Wentworth, 12 feet 2 inches. Murrumbidgee: At Gundagai, 6 feet; at Wagga, 8 feet; at Hay, 2 feet 7 inches; at Balranald, 5 feet 1 inch. Murray: At Albury, 4 feet; at Euston, 5 feet 8 inches.

ASTRONOMICAL MEMORANDA FOR JUNE 11.

Sun rises at 7.3, sets at 4.56; Moon, 10.23 p.m., 10.47 a.m.; Mercury, 8.16 a.m., 5.54 p.m.; Venus, 10.5 a.m., 8.3 p.m.; Mars, 6.10 a.m., 4.8 p.m.; Jupiter, 1.55 p.m., 2.49 a.m.; Saturn, 9.20 a.m., 7.19 p.m. Full moon, 6th; new moon, 21st.

High water at Fort Denison: 11.49 a.m., — p.m.

H. A. LENEHAN,
Acting Government Astronomer.

Stations.	W.T.	M.	m.	R.
Albury	g	55	47	0·06
Armidale	h	52	35	0
Balranald	c	59	42	0
Bathurst	g	59	34	0
Bendem'r	g	62	34	0
Bodalla	h	57	33	0
Bourke	c	70	49	0
Buncarra	c	—	49	0
C'md'n H.	h	67	47	0
C. St. Geo.	b	58	50	0
Carcoar	g	59	35	0
Casino	c	72	42	0
Cassilis	o	57	37	0
Clarence	h	65	52	0
C'nd'b'lin	r	61	45	0·04
Cooma	c	53	34	0
Coonab'n.	g	65	36	0
Cowra	g	55	40	0
Cudg'llico	r	62	44	0
Deniliq'n.	r	64	44	0·20
Dubbo	h	64	37	0
Eden	b	59	44	0
Euston	r	61	46	0
Forbes	g	—	42	0
Glen Inn's	c	58	36	0
Goulburn	g	54	30	0

EUCLA

Grafton	h	53	45	0
Gulgong	u	55	33	0
Gunned'h	c	63	40	0
Hay	r	57	38	0·11
Inverell	n	53	36	0
Kiandra	c	40	32	0
Lismore	h	71	46	0
Maitland	n	59	42	0
M'n'ng H.	b	64	44	0
Marsdens.	r	57	46	0
Menindie.	r	59	50	0
Molong	g	49	36	0
M'r'ng'r'll	c	57	42	0
Moree	b	72	45	0
Moruya	b	70	45	0
Moss Vale	g	50	40	0
Mt. Hope	g	65	48	0·10

SYDNEY OBSERVATORY.

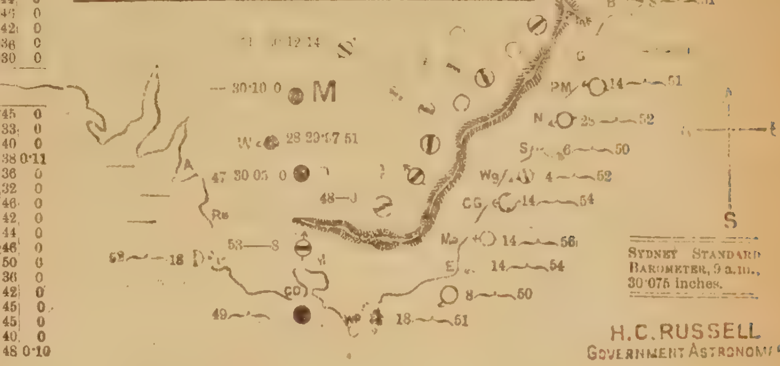
LATITUDE 33° 51′ 41″ S. LONGITUDE 10h. 4m. 50·51s. E.

MAGNETIC VARIATION, 9° 35′ 37″ E.

Average Annual Rainfall for 28 years..............49·4[illegible]
Average for 29 years from Jan. 1 to May 31 1887 .. 25·493
Total Rainfall from Jan. 1, to June 11 1887 .... [illegible]

Barometers corrected to 32° Fah. and Mean Sea Level

Curve showing state of Barometer.



T. storm, wind S. Rain, wind W.
If it is calm, these will be used without the arrow.
—— Smooth sea.
Heavy sea
Very heavy sea.

TIME-BALL.
Drops 1 p.m. Sydney mean time; 2h. 55m. 9·19s. a.m. Greenwich mean time.

SYDNEY STANDARD BAROMETER, 9 a.m., 30·075 inches.

H. C. RUSSELL
GOVERNMENT ASTRONOMER.

M. Vict'ria	u	53	37	0
Mudgee	n	63	32	0
M'rr'mb'h	u	52	41	0
M'rr'r'ndi	o	57	43	0
Mus'lbr'k	g	62	35	0
Narrabri	n	66	41	0
Newcastle	h	63	37	0
Orange	g	50	38	0
Picton	g	55	42	0
P. M'q'rie	b	63	45	0
P. St'ph'n	b	59	39	0
Q'nbeyan	n	58	31	0
Quirindi	g	68	40	0
Singleton	f	72	44	0
SYDNEY	c	57	48	0
Taralga	c	59	35	0
Taree	b	67	46	0
T'nt'rfield	c	63	37	0
Wagga	c	55	39	0
Walcha	o	55	28	0
Walgett	g	63	44	0
Warrah	b	63	—	0
W'ntw'rth	r	60	49	0·19
W'll'ng'ng	c	61	53	0
Young	g	64	38	0

NOTES EXPLANATORY OF MAP.

In the list of stations the column headed W.T. gives the state of the weather at 9 a.m., b stands for blue sky, c, detached clouds; d, drizzling rain; f, fog; g, gloomy; h, hazy; m, misty; n, frosty; o, overcast; p, passing showers; r, rain; s, snow; t, thunder; u, threatening. The next column M. gives the maximum temperature for previous 24 hours. m the corresponding minimum temperature; R, the rain for the previous 24 hours. The symbols used in the map are explained on the margin. At each coast station the wind symbol is placed like a vane pointing to the direction from which the wind is coming. A clear circle with it means fine weather; a circle with bar, cloudy weather; and a black spot, raining. Next to this symbol are placed figures denoting the number of miles the wind is moving per hour; next, a symbol showing the state of the sea; and, lastly, figures denoting the shade temperature at 9 a.m. The barometer curve shows the state of barometers round the coast from Perth to Cooktown:—Pt, Perth; Ay, Albany; Ea, Eucla; CB, Cape Borda; A, Adelaide; Re, Robe; P, Portland; M, Melbourne; WP, Wilson's Promontory; Go, Gabo; E, Eden; Ma, Moruya; CG Jervis Bay; Wg, Wollongong; S, Sydney; N, Newcastle; PM, Port Macquarie; C, Clarence River; B, Brisbane; R, Rockhampton; CT, Cooktown. Inland the state of barometer is given in figures at Albury, Deniliquin, Wentworth, Menindie, Bourke, and Alice Springs. The barometer curve enables one at a glance to trace the depressions, beginning with Western Australia, and passing along eastwards; northerly winds preceding them, and southerly following.

The rainfall on Sundays or holidays, when this map is not published, is in all cases included in the quantities shown by the next following map.

9 A.M. OBSERVATIONS.

Western Australia.—Fine along the west coast, with fresh to strong easterly winds, and moderate to rough sea; gloomy and showery in south parts, with fresh to strong S. to W. winds and moderate sea. Rainfall: Eucla, 0·32, and Esperance Bay, 0·07 inches. Extremes of barometers and temperature: Albany, 30·48; Ashburton, 30·04; Perth, 42·; and Carnarvon, 75·.

South Australia.—Generally overcast, gloomy, and threatening south of Hergott, with showers on and near the coast; light N.W. winds in north, and fresh to strong S.E. to S.W. winds in south parts; barometers have fallen, and the sea is moderating. In Northern Territory it is fine, with S.E. winds and calms; rain has fallen between Burra and Tennant's Creek; along the coast, from 0·02 to 0·05 inches; Jervis, 0·75; Queenscliffe, 1·35; Kingston, 0·82; Lucindale, 0·40; Cape Borda, 1·04; Streaky Bay, 0·60; and M'Donnell Bay, 0·10 inches. Extremes of barometers and temperature: Eucla, 30·20; Streaky Bay, 29·75; M'Donnell Bay, 49·; Port Darwin, 79·.

Victoria.—Generally overcast and showery, with light variable winds, steady barometers, and smooth to moderate sea; foggy at Melbourne and Hamilton. Rainfall: Wilson's Promontory, 0·30; Portland, 0·23; Echuca, 0·24; Cape Otway, 0·19; Ballarat, 0·08; and Cape Schanck, 0·05 inch. Extremes of barometers and temperature: Echuca, 30·06; Wilson's Promontory, 29·95; Horsham, 58·; and Hamilton, 56·.

Tasmania.—Generally fine, with light variable winds and calms, risen barometers, and smooth to moderate sea. Rainfall: Circular Heads, 0·37; Low Heads, 0·46; and in south parts from 0·03 to 0·06 inch. Extremes of barometers and temperature: Low Heads, 29·91 and 49·; Falmouth, 29·84; and Hobart, 45·.

New Zealand.—Fine in north, with N.W. winds; showery in N.E. and over the centre, with S.E. winds and calms; gloomy, with S. wind in extreme south. Barometers: In north, 29·5; over the centre, 29·8; and in south, 30·1.

Queensland.—Generally overcast, gloomy, and threatening, with drizzling rain at Blackall, and variable winds; in N.E. parts it is fine, with S.E. winds; barometers have fallen slightly, and the sea smooth to moderate. Rainfall: Roma, 0·04 inches. Extremes of barometers and temperature: Brisbane 30·19 and 51·; Normanton, 30·05; and Cooktown, 80·.

New South Wales.—Fine along the coast, with westerly winds; raining in S. W. parts; cloudy, gloomy, and unsettled over the remainder of the colony, with light, variable winds, and at places calms; the sea smooth. During the previous 24 hours light rain fell at scattreed places in S.W. parts; heaviest, 0·20 inch, at Deniliquin. Barometers have fallen slightly generally. Rainfall measured at 9 a.m. on Sunday morning, 12th, 0·061 inch; 9 p.m., Sunday, 0·115 inch; making rainfall from January 1st to 9 p.m., June 12th, 33·730 inches. Extremes of barometers and temperature: Dubbo, 30·13; Gabo Island, 29·93; Clarence, 56·; and Goulburn, 34·. For further particulars see map.

3 P.M. OBSERVATIONS.

Victoria.—Portland, E., 18, overcast and showery, smooth sea, temperature 53·; Cape Otway, E., 13, overcast and gloomy, sea moderate temperature, 51·; Wilson's Promontory, N.E., 13, overcast and like rain, sea slight, temperature, 52·.

New South Wales.—Menindie, E., showery, temperature 58·; Wentworth, S.W., dull, temperature 52·; Deniliquin, calm, showery, temperature 60·; Eden, calm, fine and clear, smooth sea, temperature 61·; Moruya, N.W., 14, cloudy and gloomy, smooth sea, temperature 58·; Cape St. George, W., 42, cloudy, smooth sea, temperature 57·; Sydney, calm, cloudy, smooth sea, Newcastle, W.N.W., 8 dull, smooth sea, temperature 58·; Port Macquarie, calm, fine and clear, smooth sea, temperature 66·; Clarence River, N., 8 dull, smooth sea, temperature 66·; Walgett, N.W., cloudy, temperature 56·; Dubbo, N.E., cloudy, but fine temperature 57·; Goulburn, calm, showery, temperature 60·.

Queensland.—Townsville, S.E., 13, fine and clear, temperature, 73; Rockhampton, calm, cloudy and gloomy, temperature 70·; Roma, calm, overcast and showery, temperature 63·.

HEIGHT OF RIVERS ABOVE SUMMER LEVEL.

Macintyre: At Mungindi, low. Barwon: At Mogil low; at Walgett, low. Namoi: At Walgett, low. Culgoa at Goodooga, low. Darling: At Brewarrina, low; at Bourke, 1ft. 3 inches; at Louth, 4 feet 4 inches; at Tilpa, 5 feet 6 inches; at Wilcannia, 8 feet 1 inch; at Menindie, 24 feet; at Pooncarie, 23 feet 9 inches; at Wentworth, 12 feet 2 inches. Murrumbidgee: At Gundagai, 5 feet 3 inches; at Wagga, 7 feet 6 inches; at Hay, 2 feet 7 inches; at Balranald, 5 feet. Murray: At Albury, 4 feet; at Euston, 5 feet 7 inches.

ASTRONOMICAL MEMORANDA FOR JUNE 13.

Sun rises at 7.4, sets at 4.56; Moon sets 11.59 a.m.; Mercury, 8.25 a.m., 6·3 p.m.; Venus, 10.4 a.m., 8.6 p.m.; Mars, 6.8 a.m., 4.9 p.m.; Jupiter, 1.47 p.m., 2.41 a.m.; Saturn, 9.13 a.m., 7.19 p.m. Full moon, 6th; new moon, 21st.

High water at Fort Denison: 12.51 a.m., 1.10 p.m.

H. A. LENEHAN,
Acting Government Astronomer.

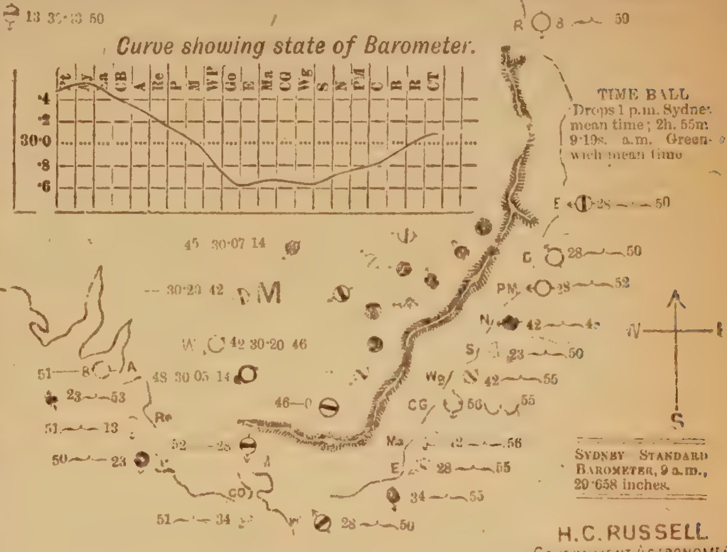
SYDNEY OBSERVATORY.

LATITUDE 33° 51′ 41″ S. LONGITUDE 10h. 4m. 50·51s. E.
MAGNETIC VARIATION, 9° 35′ 37″ E.

Average Annual Rainfall for 28 years.................49·439
Average for 29 years from Jan. 1 to May 31 1887 ... 25·403
Total Rainfall from Jan. 1. to June 13 1887 ... 31·065

Barometers corrected to 32° Fah. and Mean Sea Level

Stations.	Wt	Mx	Mn	Rn.
Albury	f	51	46	0·70
Armidale	c	53	38	0·56
Balranald	g	61	37	0·91
Bathurst	r	51	37	0·53
Bendem'r.	r	48	40	1·40
Bodalla	b	63	38	0·09
Bourke	r	58	47	0·51
Buncarra	r	—	45	0·51
C'md'n H.	b	67	45	0
C. St. Geo.	c	60	47	0·34
Carcoar	r	50	41	1·20
Casino	b	71	43	0
Cassilis	r	52	45	0·59
Clarence	b	70	51	0
C'nd'b'lin	r	62	45	0·27
Cooma	c	51	35	0·35
Coonab'n.	c	51	40	0·74
Cowra	o	54	40	0·81
Cudg'llico	u	52	44	0·70
Deniliq'n.	b	63	43	0·41
Dubbo	n	51	42	0·58
Eden	u	56	49	0·48
Euston	b	54	23	0·55
Forbes	r	—	35	0·30
Glen Inn's	s	52	36	0·46
Goulburn	g	52	37	0·52
Grafton	b	71	44	0·09
Gulgong	u	53	33	1·00
Gunned'h	c	62	40	0·71
Hay	b	52	40	0·67
Inverell	r	55	43	0·44
Kiandra	u	40	30	0
Lismore	b	71	52	0·30
Maitland	r	57	44	0
M'n'ng H.	b	63	44	0·16
Marsdens.	u	54	50	0·53
Menindie.	g	66	45	0·50
Molong	c	48	37	0
M'r'ng'r'll	c	54	48	0·70
Moree	g	58	42	0·10
Moruya	b	56	48	0·18
Moss Vale	n	49	42	0·47
Mt. Hope	c	65	44	0·96
M. Vict'ria	r	49	35	0·38
Mudgee	r	60	34	0·64
M'rr'mb'h	u	53	43	0·95
M'rr'r'ndi	u	54	49	1·16
Mus'lbr'k	u	60	44	0·61
Narrabri	r	65	49	1·16
Newcastle	r	62	38	0·08
Orange	r	45	41	1·75
Picton	o	57	42	0
P. M'q'rie	b	69	41	0
P. St'ph'n	r	57	46	0·32
Q'nbeyan	g	62	36	1·05
Quirindi	r	58	44	0·82
Singleton	r	53	46	0·33
SYDNEY	g	58	48	0·51
Taralga	g	55	35	0·23
Taree	b	67	41	0·10
T'nt'rfield	r	57	41	0·80
Wagga	o	51	40	0·97
Walcha	r	50	32	0·67
Walgett	u	56	45	0·04
Warrah	r	55	—	0·75
W'ntw'rth	b	56	44	0·24
W'll'ng'ng	g	62	54	0·23
Young	r	52	42	0·95



NOTES EXPLANATORY OF MAP.

In the list of stations the column headed W.T. gives the state of the weather at 9 a.m., b standing for blue sky; c, detached clouds; d, drizzling rain; f, fog; g, gloomy; h, hazy; m, misty; o, overcast; p, passing showers; r, rain; s, snow; t, thunder; u, threatening. The next column, M'x gives the maximum temperature for previous 24 hours. M'n the corresponding minimum temperature; r'n, the rain for the previous 24 hours. The symbols used in the map are explained on the margin. At each coast station the wind symbol is placed like a vane pointing to the direction from which the wind is coming. A clear circle with it means fine weather; a circle with bar, cloudy weather; and a black spot, raining. Next to this symbol are placed figures denoting the number of miles the wind is moving per hour; next, a symbol showing the state of the sea; and, lastly, figures denoting the shade temperature at 9 a.m. The barometer curve shows the state of barometers round the coast from Perth to Cooktown:—Pt, Perth; Ay, Albany; Ea, Eucla; Cb, Cape Borda; A, Adelaide; Re, Robe; P, Portland; M, Melbourne; WP, Wilson's Promontory; Go, Gabo; E, Eden; Ma, Moruya; CG Jervis Bay; Wg, Wollongong; S, Sydney; N, Newcastle; PM, Port Macquarie; C, Clarence River; B, Brisbane; R, Rockhampton; Ct, Cooktown. Inland the state of barometer is given in figures at Albury, Deniliquin, Wentworth, Menindie, Bourke, and Alice Springs. The barometer curve enables one at a glance to trace the depressions, beginning with Western Australia, and passing along eastwards; northerly winds preceding them, and southerly following.

The rainfall on Sundays or holidays, when this map is not published, is in all cases included in the quantities shown by the next following map.

9 A.M. OBSERVATIONS.

Western Australia.—Generally more or less cloudy and unsettled, with passing showers in south parts, fresh to strong N. to E. winds, risen barometers, and moderate sea. Rainfall: Geraldton, 0·03; Esperance Bay, 0·08; and Albany, 0·12 inches. Extremes of barometers and temperature: Albany, 30·54; Cossack, 30·15; Ashburton, 72°; and Perth, 45°.

South Australia.—Generally overcast south of Tennant's Creek, with light rain in showers at places; fresh to strong S.E. to S.W. winds, risen barometers, and smooth to moderate sea. Rain was fallen south of Strangway's Springs, generally from 0·25 to 0·75; but 21 stations on and near the ranges report over an inch fallen. Burra, 1·37; Jamestown, 1·35; Terowie, 1·31; Crafers, 1·22; and Milong, 1·18 inches. Extremes of barometers and temperature: Eucla, 30·45; Port Darwin, 30·05 and 73°; Robe and Adelaide 51°.

Victoria.—Generally cloudy and unsettled, with passing showers on and near the coast; fresh to strong S. to W. winds, rising barometers, and smooth to moderate sea; squally and misty in the Straits. Rainfall: Portland, 0·91; Ballarat, 0·74; Wilson's Promontory, 0·64; Melbourne, 0·51; Cape Schanck, 0·59; Cape Otway, 0·44; Horsham, 0·31; Lake's Entrance, 0·28; and Omeo, 0·20 inch. Extremes of barometers and temperature: Hamilton, 30·09; Lake's Entrance, 29·81; Horsham, 58°; and Ballarat, 44°.

Tasmania.—Generally gloomy and threatening, with light to fresh S. to W. winds, fallen barometers, and moderate sea. Rainfall: Southport, 0·17; Falmouth, 0·14; and Low Heads, 0·91 inch. Extremes of barometers and temperature: Circular Heads, 29·89; Falmouth, 29·75 and 49°; Southport, 44°.

New Zealand.—Generally fine, with light southerly winds or calms, and barometers at 29·9.

New South Wales.—Fine in north coast districts and along the Lower Murray, over the remainder of the colony raining or threatening, especially east of a line joining Bourke and Gabo Island; winds are fresh to strong from N.W. to S.W. generally; the sea smooth to moderate, but rough and rising at Cape St. George. During the previous 48 hours rain fell throughout the colony, heaviest along the ranges; eight stations report from 1 to 1½ inch, and 50 per cent of the stations report over half an inch. Of the Sydney total rainfall since last report only 0·06 inch fell previous to 9 a.m. yesterday. Extra stations—Rainfall: Tamworth 0·22, Camden 0·35, Wilcannia 0·37, Gabo Island 0·39, and Hill End 1·20 inches; at the last-mentioned it is still raining heavily. Extremes of barometers and temperature: Menindie and Wentworth, 30·20; Wollongong and Gabo, 29·65; Moruya, 56°; and Mount Victoria, 36°. For further particulars see map.

Queensland.—Generally more or less cloudy and unsettled, and at places inland threatening rain; fresh to strong westerly wind in south, and S. to S.E. winds in north parts. Rainfall: Brisbane 0·01, and Rockhampton 0·02 inch. Barometers have fallen; the sea is smooth to moderate. Extremes of barometers and temperature: Townsville, 30·16; Brisbane, 29·91; Cooktown, 81°; and Roma, 50°.

3 P.M. OBSERVATIONS.

Victoria.—Portland, S.S.W., 34, squally and showery, slight sea, temperature 52°; Cape Otway, W.S.W., 40, showery, moderate sea, temperature 48°; Melbourne, S.S.W., 13, overcast and gloomy, temperature 51°; Cape Schanck, S., 23, squally and showery, rough sea, temperature 54°; Wilson's Promontory, W.S.W., 34, squally and showery, rough sea, temperature 54°; Lakes' Entrance, W.S.W., 28, squally, temperature 55°.

New South Wales.—Menindie, W.S.W., 14, fine, temperature 54°; Wentworth, S., 14, fine, temperature 50°; Deniliquin, S.W., 28, fine, but cloudy, temperature 58°; Eden, S.W., 42, cloudy, and like rain, light E. sea, temperature 59°; Moruya, S.W., 42, cloudy, moderate sea, temperature 60°; Cape St. George, S., 56, showery, heavy sea, temperature 60°; Sydney, S.W., 28, cloudy, threatening, and squally, moderate sea, temperature 60°; Newcastle, N.W., 56, dull, sea rising, temperature 56°; Port Macquarie, S.W., 42, dull and showery, smooth sea, temperature 59°; Clarence River, W., 56, fine, smooth sea, temperature 65°; Walgett, N.W., 14, cloudy and cold, temperature 57°; Dubbo, calm, fine, temperature 57°; Goulburn, W., 14, dull, temperature 58°.

Queensland.—Rockhampton, S.S.W., 23, fine and clear, temperature 66°; Bowen, S.W., cloudy and gloomy; Blackall, S.W., bleak and cold; Hughenden, S.E., 18, cloudy and dull.

HEIGHT OF RIVERS ABOVE SUMMER LEVEL.

Macintyre: At Mungindi, low. Barwon: At Mogil Mogil, low; at Walgett, low. Namoi: At Walgett, low. Culgoa at Goodooga, low. Darling: At Brewarrina, low; at Bourke, 1 foot; at Louth, 4 feet; at Tilpa, 5 feet 2 inches; at Wilcannia, 8 feet; at Menindie, 23 feet 5 inches; at Pooncarie, 23 feet 7 inches; at Wentworth, 12 feet 2 inches. Murrumbidgee: At Gundagai, 6 feet 3 inches; at Wagga, 7 feet 3 inches; at Hay, 4 feet; at Balranald, 4 feet 11 inches. Murray: At Albury, 5 feet; at Euston, 5 feet 7 inches.

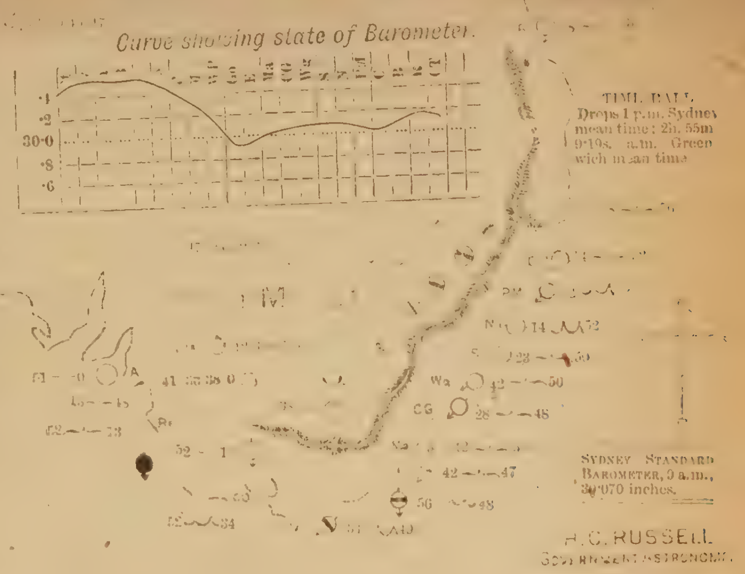
ASTRONOMICAL MEMORANDA FOR JUNE 14.

Sun rises at 7.4, sets at 4.56; Moon rises at 12.10 a.m., sets at 12.32 p.m.; Mercury, 8.29 a.m., 6.7 p.m.; Venus, 10.4 a.m., 8.8 p.m.; Mars, 6.8 a.m., 4.4 p.m.; Jupiter, 1.43 p.m., 2.37 a.m.; Saturn, 9.10 a.m., 7.8 p.m. Full moon, 6th; new moon, 21st.

High water at Fort Denison: 1.36 a.m., 2.1 p.m.

H. A. LENEHAN,
Acting Government Astronomer.

Armid[illegible]		4[illegible]		[illegible]
Balranald	b	64 [illegible]		[illegible]
Bathurst	c	[illegible]		0·10
Bendem'r	g	47 [illegible]		[illegible]
[illegible]	n	61 [illegible]		0
Bourke	b	[illegible]		0
[illegible]		[illegible]		[illegible]
Chat'll H.	b	[illegible]		[illegible]
C[illegible] Geo.	b	64 [illegible]		[illegible]
Carcoa[illegible]	g	47 [illegible]		[illegible]
Casino	b	[illegible] 41		[illegible]
[illegible]		[illegible]		[illegible]
Clarence	b	[illegible]		0
C'd'b'lin	b	[illegible]		0
Cooma	c	[illegible]		0·02
Coon[illegible]	b	[illegible]		[illegible]
[illegible]		[illegible]		[illegible]
[illegible]	b	[illegible]		[illegible]
[illegible]	b	[illegible]		[illegible]
Du[illegible]		[illegible]		0
E[illegible]	n	[illegible]		0·15
Eus[illegible]	b	6[illegible]		[illegible]
Forbes	n	[illegible]		[illegible]
Glen Inn's		[illegible]		[illegible]
Goulburn	b	53 3		[illegible]



LATITUDE 33° 51′ 41″ S. LONGITUDE 10h. 4m. 50·81s. E.
MAGNETIC VARIATION, 9° 35′ 37″ E.

Average Annual Rainfall for 2[illegible] years ... [illegible]
Average for 29 years from Jan. 1 to May 31 1887 ... [illegible]
Total Rainfall from Jan. 1, to June 14 1887 ... [illegible]

Barometers corrected to 32° Fah. and Mean Sea Level

T. storm, C. wind S. ... Rain, wind W.
If it is calm, the symbol used without the arrow
[illegible]
Heavy sea
Very heavy sea.

Grafton	b	6[illegible]		0
Gulgong	r	48	33	0
Gunned'h	g	57	46	0·12
Hay	b	53	34	0
Inverell	u	49	42	0·06
Kiandra	n	45	26	0
Lismore	b	63	43	0
Maitland	b	58	46	0
M'n'ng H.	b	57	42	0
Marsdens	c	58	35	0
Menindie	b	55	44	0
Molong	b	45	34	0
M'r'ng'r'll	c	58	49	0
Moree	b	53	43	0
Moruya	b	64	42	0
Moss Vale	b	51	37	0
Mt. Hope	u	55	39	0·05
M. Vict'ria	b	48	53	0·03
Mudgee	c	53	37	0·04
M'rr'mb'h	c	56	40	0
M'rr'r'ndi	b	56	42	0·33
Mus'lbr'k	b	61	38	0·02
Narrabri	b	58	49	0·08
Newcastle	q	67	35	0·14
Orange	b	46	39	0·03
Picton	b	60	41	0
P. M'q'rie	b	61	46	0·17
P. St'ph'n	b	64	41	0·45
Q'nbeyan	n	54	25	0
Quirindi	n	48	41	0·23
Singleton	b	51	48	0·14
SYDNEY	b	61	47	0·01
Taralga	n	55	35	0
Taree	b	59	46	0·25
T'nt'rfield	c	57	45	0·13
Wagga	b	60	29	0
Walcha	u	41	32	0·15
Walgett	c	54	46	0
Warrah	f	48	—	0·29
W'ntw'rth	b	57	39	0
W'll'ng'ng	b	62	52	0
Young	g	65	39	0

NOTES EXPLANATORY OF MAP.

In the list of stations [illegible] the weather at 9 a.m., b [illegible] fog; g, gloomy; h, hazy; [illegible] rain; s, snow; t, thunder; u, [illegible] minimum temperature for previous 24 hours. [illegible] temperature [illegible], the rain for the previous 24 hours. The symbol [illegible] marked on the margin. At each coast station the wind symbol [illegible] vane pointing to the direction from which the wind is coming. A clear circle with it means fine weather; a circle with bar, cloudy weather; and a black spot, raining. Next to this symbol are placed figures denoting the rate [illegible] the wind is moving per hour; next, a symbol showing the state of the sea, and lastly, figures denoting the shade temperature at 9 a.m. The barometer curve shows the state of barometers round the coast from Perth to Cooktown: Pt, Perth; Ay, Albany; Eu, Eucla; CB, Cape Borda; A, Adelaide; Ke, Robe; P, Portland; M, Melbourne; WP, Wilson's Promontory; Go, Gabo; E, Eden; Ma, Moruya; CG Jervis Bay [illegible] S, Sydney; N, Newcastle; PM, Port Macquarie; C, Clarence River; B, Brisbane; R, Rockhampton; Ct, Cooktown. Inland the state of barometer is given in figures at Albury, Deniliquin, Wentworth, Menindie, Bourke, and Alice Springs. The barometer curve enables one at a glance to trace the depressions, beginning with Western Australia, and passing along eastwards; northerly winds preceding them, and southerly following.

The rainfall on Sundays or holidays, when this map is not published, is in all cases included in the quantities shown by the next following map.

9 A.M. OBSERVATIONS.

Western Australia.—Generally fine, with light to fresh easterly winds, high and steady barometers, and moderate to rather rough sea. Rainfall: Eucla, 0·04; Esperance Bay, 0·01 inches. Extremes of barometers and temperature: Esperance Bay, 30·53; Cossack, 30·13; Perth, 44°; and Carnarvon, 72°.

South Australia.—Generally more or less cloudy, with light rain in scattered places; light S. to S.E. winds and calms, high and rising barometers, and moderate sea. Rain has fallen south of Port Augusta, but partial, generally from 0·01 to 0·20 inches. Extremes of barometers and temperature: Cape Borda, 30·51 and 48°; Port Darwin, 30·11 and 72°.

Victoria.—Generally unsettled, with clouds at places, and showers at Hamilton, Lakes' Entrance, and Portland. Snowing at Omeo. Fresh to strong southerly winds, rising barometers, and rough sea. Rainfall generally from 0·02 to 0·52 inches. Extremes of barometers and temperature: Horsham, 30·10 and 57°; Lakes' Entrance, 30·08, and Omeo, 42°.

Tasmania.—Fine, but cloudy in north, passing showers in south parts; light to fresh S. to W. winds, rising barometers, and moderate to rough sea. Hobart, 0·25 inch rain. Extremes of barometers and temperature: Circular Head, 30·30 and 47°; Southport, 29·95; and Hobart 42°.

New Zealand.—Calm and cloudy in north and over the centre: fine, with N.E. wind in extreme south. Barometers: In south 29·4; to northward, 29·5.

New South Wales.—Cloudy along the ranges and at the head of the Darling and Lachlan Rivers, also in south coast districts; light rain at Gulgong, snow showers at Glen Innes. Over the remainder of the colony fine, clear, and cold. Winds from W. to S. generally, and fresh to strong on and near the coast. The sea moderating, but heavy at places. Gabo Island reports very strong S.S.W. wind with fierce squalls and high sea. During the previous 24 hours light rain fell in N.E. parts generally. Extra stations—Hill End 0·10, and Gabo Island 0·72 inches rain fallen. Extremes of barometers and temperature: Wentworth and Menindie, 30·47; Gabo and Eden, 29·93; in north coast districts, 52°; and at Kiandra, 30°. For further particulars see map.

Queensland.—Fine but unsettled, and at places inland threatening, with fresh S.W. to S.E. winds, risen barometers, and moderate to rather rough sea. No rain reported. Extremes of barometers and temperature: Roma, 30·23 and 50°; Cooktown, 30·08 and 79°.

3 P.M. OBSERVATIONS.

Victoria.—Portland, S.W., 23, fine but cloudy, moderate sea, temperature 53°; Cape Otway, S.W., 34, squally and cloudy moderate sea, temperature 53°; Melbourne, W.S.W., 13, showery temperature 52°; Cape Schanck, S.W., 23, squally, rough sea temperature 58°; Wilson's Promontory, S.W., 34, squally and cloudy, rough sea, temperature 53°; Lakes' Entrance, W.S.W., 34, showery and squally, temperature 54°.

New South Wales.—Menindie, S.S.W., 28, fine, temperature 5[illegible]; Wentworth, S., 11, cloudy temperature 51°; Deniliquin, S., 11, fine and clear, temperature 59°; Eden, S.W., 42, fine, but cloudy, light E. sea, temperature 50°; Moruya, S.W., 28, fine, heavy sea, temperature 58°; Cape St. George, S., 28, fine, smooth sea, temperature 58°; Sydney, S.W., 16, fine, cold and squally, rough sea, temperature 56°; Newcastle, S.S.W., 56, fine heavy sea, temperature 60°; Port Macquarie, S.S.W., 42, fine, heavy sea, temperature 63°; Clarence River, W., 11, fine, moderate sea, temperature 65°; Walgett, S.E., 14, fine, temperature 6[illegible]; Dubbo, S.W., fine, temperature 56°; Goulburn, W., 14, dull, temperature 60°.

Queensland.—Boulia, S.E., overcast and cold; Normanton, S., 13 overcast and gloomy, temperature 73°; Townsville, S., 1[illegible], fine and clear, temperature 70°; Mackay, S.E., 8, fine and cool; Thargomindah, S.E., fine; Rockhampton, S.S.W., 13, fine but cloudy, temperature 64°; Roma, S., overcast, temperature 55°; Blackall, E., 28, like rain, cloudy, temperature 54°; Brisbane, W.N.W., [illegible], fine and clear, temperature 65°.

H[illegible] OF RIVERS ABOVE SUMMER LEVEL.

Macintyre: At [illegible]indi, low. Barwon: At Mogil Mogil, low; at Walgett, low. Namoi: At Walgett, low. Culgoa at Goodooga, low. Darling: At Brewarrina, low; at Bourke, 10 inches; at Louth, 3 feet 11 inches; at Tilpa, 5 feet; at Wilcannia, 7 feet; at Menindie, 23 feet; at Pooncarie, 23 feet 7 inches; at Wentworth, 13 feet 2 inches. Murrumbidgee: At Gundagai, 7 feet 3 inches; at Wagga, 6 feet 8 inches; at Hay, 5 feet; at Balranald, 4 feet 11 inches. Murray: At Albury, 5 feet 9 inches; at Euston, 5 feet 7 inches.

ASTRONOMICAL MEMORANDA FOR JUNE 15.

Sun rises at 7.4, sets at 4.56; Moon rises at 1.2 a.m., sets at 1.3 p.m.; Mercury, 8.32 a.m., 6.11 p.m.; Venus, 10.4 a.m., 8.10 p.m.; Mars, 6.7 a.m., 4.3 p.m.; Jupiter, 1.39 p.m., 2.33 a.m.; Saturn, 9.6 a.m., 7.5 p.m. Full moon, 6th; new moon, 21st.

High water at Fort Denison: 2.30 a.m., 2.59 p.m.

H. A. LENEHAN,
Acting Government Astronomer.

SYDNEY OBSERVATORY.

Latitude [illegible] S. Longitude [illegible]

[illegible] Variation, [illegible]

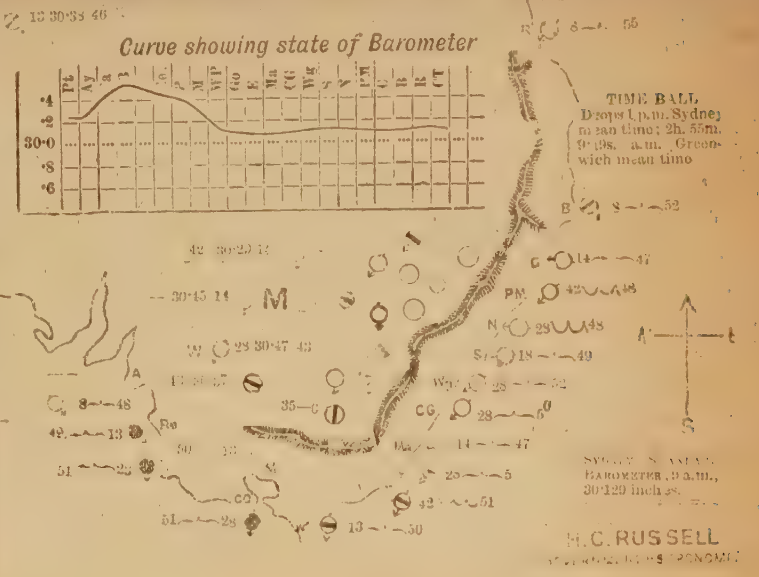
Average Annual Rainfall for 28 years..... [illegible]
Average for 29 years from Jan. 1 to May [illegible]
Total Rainfall from Jan. 1, to June [illegible] [illegible]

Barometers corrected to 32° Fah. and Mean Sea Level.

Stations.	W.	Mx. Mn.	Rn.
Albury	[illegible]	[illegible]	0
Armidale	[illegible]	[illegible]	0
Bermagui	[illegible]	[illegible]	0
Bathurst	[illegible]	[illegible]	0
Bendem'r	n	[illegible]	0
Bodalla	[illegible]	[illegible]	[illegible]
Bourke	b	[illegible]	0
Buncarra	n	—[33]	0
C'md'n H.	b	66 48	0
C. St. Geo.	b	59 44	0
Carcoar	b	47 34	0
Casino	[illegible]	70 37	0
Cassilis	n	53 34	0
Clarence	b	68 46	0
C'nd'b'lin	1	[illegible] 39	0
Cooma	[illegible]	[illegible] 27	0
Coonab'n.	n	[illegible]	0
Cowra	b	[illegible]	0
Cung'llieo	b	[illegible]	0
Deniliq'n.	g	64 36	0
Dubbo	b	54 26	0
Eden	n	58 47	0·02
Euston	b	62 36	0
Forbes	g	—[43]	0
Glen Innes	[illegible]	46 2[illegible]	0
Goulburn	b	50 32	0

S 13—52
EUCLA

Stations.	W.	Mx. Mn.	Rn.
Grafton	n	73 40	0
Gulgong	b	50 26	0
Gunned'h	b	58 35	0
Hay	c	56 34	0
Inverell	b	55 32	0
Kiandra	n	41 21	0
Lismore	b	73 42	0
Maitland	b	58 42	0
M'n'ng H.	b	60 45	0
Marsdens	n	56 41	0
Menindie	b	55 42	0
Molong	b	39 30	0
M'r'ng'r'll	c	57 39	0
Moree	g	66 35	0
Moruya	b	60 41	0
Moss Vale	b	47 35	0
Mt. Hope	f	60 49	0
M. Vict'ria	n	47 30	0
Mudgee	n	65 27	0
M'rr'mb'h	n	60 34	0
M'rr'r'ndi	n	52 35	0
Mus'lbr'k	n	54 31	0
Narrabri	n	59 34	0
Newcastle	b	65 37	0
Orange	b	44 35	0
Picton	b	[illegible]	0
P. M'q'rie	b	62 [illegible]	0
P. St'ph'n	[illegible]	[illegible]	0
Q'nbeyan	[illegible]	[illegible]	0
Quirindi	n	58 35	0
Singleton	b	57 46	0
Sydney	b	58 45	0
Tenterfield	b	58 31	0
Taree	—	—	—
T'nt'rfield	g	54 34	0
Wagga	n	56 29	0
Walcha	n	44 26	0
Walgett	b	57 38	0
Warrah	n	54 —	0
W'ntw'rth	b	56 39	0
W'll'ng'ng	b	60 52	0
Young	g	64 39	0



NOTES EXPLANATORY OF MAP.

In the list of stations the column headed W. gives the state of the weather at 9 a.m.; b standing for blue sky; c, detached clouds; d, drizzling rain; f, fog; g, gloomy; h, hazy; m, misty; n, frosty; o, overcast; p, passing showers; r, rain; s, snow; t, thunder; u, threatening. The next column, Mx gives the maximum temperature for previous 24 hours. Mn the corresponding minimum temperature; Rn, the rain for the previous 24 hours. The symbols used in the map are explained on the margin. At each coast station the wind symbol is placed like a vane pointing to the direction from which the wind is coming. A clear circle with it means fine weather; a circle with bar, cloudy weather; and a black spot raining. Next to this symbol are placed figures denoting the number of miles the wind is moving per hour; next, a symbol showing the state of the sea, and, lastly, figures denoting the shade temperature at 9 a.m. The barometer curve shows the state of barometers round the coast from Perth to Cooktown:—Pt, Perth; Ay, Albany; Ea, Eucla; CB, Cape Borda; A, Adelaide; Ro, Robe; P, Portland; M, Melbourne; WP, Wilson's Promontory; Go, Gabo; E, Eden; Ma, Moruya; CG Jervis Bay; Wg, Wollongong; S, Sydney; N, Newcastle; PM, Port Macquarie; C, Clarence River; B, Brisbane; R, Rockhampton; Ct, Cooktown. Inland the state of barometer is given in figures at Albury, Deniliquin, Wentworth, Menindie, Bourke, and Alice Springs. The barometer curve enables one at a glance to trace the depressions, beginning with Western Australia, and passing along eastwards; northerly winds preceding them, and southerly following.

The rainfall on Sundays or holidays, when this map is not published, is in all cases included in the quantities shown by the next following map.

9 A.M. OBSERVATIONS.

Western Australia.—Generally fine, with light to fresh N.E. to E. winds, fallen barometers, and smooth to moderate sea, but rather rough off Cossack. No rain reported. Extremes of barometers and temperature: Esperance Bay, 30·39 and 45°; Cossack, 30·13; and Carnarvon, 72°.

South Australia.—Generally overcast and gloomy, with showers in S.E. parts and on the ranges, but fine in the neighbourhood of Adelaide. Light S.E. winds and calms, fallen barometer, and sea moderate. Rain has fallen on and near the coast and ranges generally from 0·02 to 0·15 inches. In Northern Territory gloomy, and cold, with strong S.E. winds. Raining at Daly Waters, and 0·53 inch fallen; at Tennant's Creek, 0·75 inch. Extremes of barometers and temperature: Cape Borda, 30·49 and 48°; Port Darwin, 30·09 and 69°.

Victoria.—Generally cloudy and unsettled, with showers in S.W. parts; light to fresh S. to W. winds, rising barometers, and moderate to rather rough sea. Rainfall: Melbourne 0·12, Hamilton 0·14, Cape Otway 0·08, and other stations from 0·02 to 0·06 inches. Extremes of barometers and temperature: Horsham, 30·40 and 57°. Lakes' Entrance and Wilson's Promontory, 30·16; Omeo, 3[illegible].

Tasmania.—Cloudy and unsettled in north, passing showers in south parts, with fresh S. to S.W. winds, rising barometers, and moderate to rough sea. Rainfall: Southport 0·2[illegible], Hobart and Circular Heads 0·02 inch. Extremes of barometers and temperature: Circular Head, 30·23 and 47°; Falmouth, 30·05 and 52°.

New Zealand.—Generally gloomy, with N.E. to N.W. winds; passing showers from W. in extreme north, showery, with strong south wind and rough sea.

New South Wales.—Generally fine, clear, and cold, but cloudy on the Upper Lachlan and on the Victorian and Queensland borders. Foggy at scattered places in S.W. parts, frosty along the ranges. Light to fresh W. to S. winds, steady barometers, and the sea moderate, but rough at Gabo Island, and between Newcastle and Port Macquarie. Rain fell at Eden and Gabo Island, at the latter 0·70 inch. Extremes of barometers and temperature:—Wentworth, 30·17; Gabo Island, 30·00; Eden, 53°; and Kiandra 31°. For further particulars see map.

Queensland.—Generally overcast, gloomy, threatening, and cold, with fresh to strong S. to S.E. winds, risen barometers, and smooth to moderate sea. Blowing a gale from S.E., and showery in N.W. parts. Rainfall: Boulia, 0·11 inch. Extremes of barometers and temperature:—Roma and Townsville, 30·23; Cooktown, 30.08 and 79°; Roma, 45°.

3 P.M. OBSERVATIONS.

Victoria.—Portland, S., 28, fine but cloudy, smooth sea, temperature 52°; Cape Otway, S., 23, overcast and misty moderate sea. temperature 52°; Melbourne, S., 13, misty and rain temperature 51°; Cape Schanck, S.S.W., 23, overcast, and misty, moderate sea, temperature 55°; Wilson's Promontory, S.S.W., 23, fine, but cloudy, moderate sea, temperature 53°; Lakes' Entrance, S.W., 28, cloudy and threatening, temperature 56°.

New South Wales.—Menindie, S.W., 23, cloudy and cold, temperature 51°; Wentworth, S., 11, cloudy and dull, temperature 47°; Deniliquin, S., 14, overcast and dull, temperature 5[illegible]; Eden, S.W., 42, fine, but cloudy, light E. sea, temperature 57°; Moruya, S.S.W., 42, fine, moderate sea, temperature 59°; Cape St. George, S., 56, fine, heavy sea, temperature 58°; Sydney, S.S.W., 19, cloudy and threatening, moderate sea, temperature 57°; Newcastle, S.S.W., 42, fine, moderate sea, temperature [illegible]; Port Macquarie, S.S.W., 42, fine, and clear, heavy sea, temperature 61°; Clarence River, W., 11, dull, moderate sea, temperature 61°; Walgett, S.W., 14, dull, temperature 55°; Dubbo, S.W., 14, fine, temperature 56°; Goulburn, calm, fine, temperature 55°.

Queensland.—Boulia, S.E., 13, overcast and gloomy, Cooktown, S.E., 13, overcast and showery, temperature 58°; Hughenden, calm, raining steadily, and cold; Normanton, overcast and raining; Mackay, calm, dull, like rain; Blackall, S.E., 13, raining; Rockhampton, W., 13, overcast and gloomy, temperature 55°; Roma, S., overcast, and threatening, temperature 50°; Cape Moreton, S., 13, overcast, temperature 58°; Brisbane, calm, overcast and gloomy, temperature 59°.

HEIGHT OF RIVERS ABOVE SUMMER LEVEL.

Macintyre: At Mungindi, low. Barwon: At Mogil Mogil, low; at Walgett, low. Namoi: At Walgett, low. Culgoa at Goodooga, low. Darling: At Brewarrina, summer level; at Bourke, 7 inches; at Louth, 3 feet 10 inches; at Tilpa, 6 feet 10 inches; at Wilcannia, 7 feet 4 inches; at Menindie, 23 feet 10 inches; at Pooncarie, 23 feet 6 inches; at Wentworth, 12 feet 2 inches. Murrumbidgee: At Gundagai, 10 feet 10 inches; at Wagga, 12 feet 5 inches; at Hay, 5 feet 9 inches; at Balranald, 5 feet 8 inches. Murray: At Albury, 5 feet 10 inches; at Euston, 5 feet 7 inches.

ASTRONOMICAL MEMORANDA FOR JUNE 16.

Sun rises at 7.5, sets at 4.56; Moon rises at 1.56 a.m., sets at 1.34 p.m.; Mercury, 8.34 a.m., 6.15 p.m.; Venus, 10.3 a.m., 8.11 p.m.; Mars, 6.7 a.m., 4.3 p.m.; Jupiter, 1.35 p.m., 2.29 a.m.; Saturn, 9.3 a.m., 7.2 p.m. Full moon, 6th; new moon, 21st.

High water at Fort Denison: 3.30 a.m., 4.1 p.m.

H. A. LENEHAN,
Acting Government Astronomer.

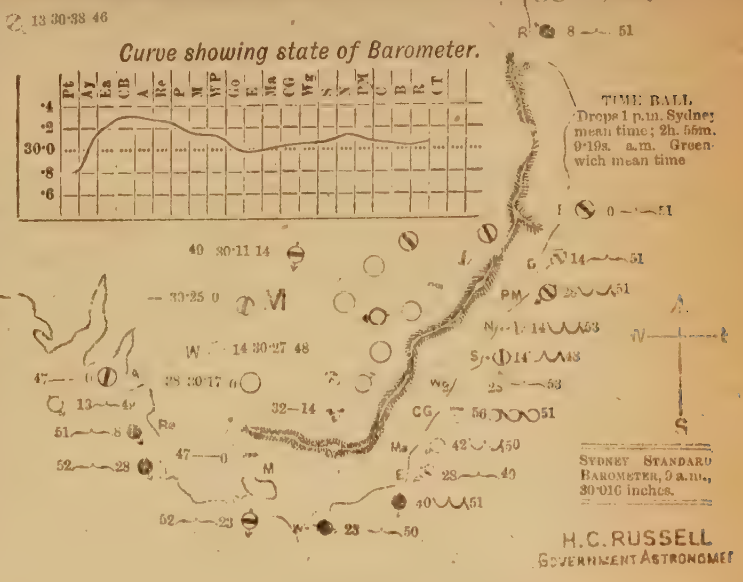
Stations.	wt	Max	Min	R.
Albury	t	[illegible]	[illegible]	0
Armidale	b	[illegible]	[illegible]	0
Balranald	g	65	[illegible]	0
Bathurst	t	57	29	0
Bendem'r	b	52	32	0
Bodalla	b	60	[illegible]	0
Bourke	c	55	44	0
Buncarra	u	—	39	0
C'md'n H.	b	65	53	0
C. St. Geo.	c	63	48	0
Carcoar	n	47	31	0
Casino	u	66	42	0
Cassilis	c	50	35	0
Clarence	c	62	49	0
C'nd'b'lin	n	63	35	0
Cooma	c	52	37	0·02
Coonab'n.	n	53	30	0
Cowra	n	51	39	0
Cudg'llico	f	73	36	0
Deniliq'n.	n	64	33	0
Dubbo	b	58	29	0
Eden	d	57	47	[illegible]
Euston	b	60	39	0
Forbes	n	—	40	0
Glen Inn's	c	52	39	0·02
Goulburn	g	53	29	0
Grafton	c	71	44	0
Gulgong	b	50	26	0
Gunned'h	c	54	37	0
Hay	b	58	37	0
Inverell	u	53	33	0
Kiandra	n	47	23	0
Lismore	u	63	46	0
Maitland	b	59	43	0
M'n'ng H.	b	60	46	0
Marsdens.	n	55	40	0
Menindie.	g	55	46	0
Molong	o	41	23	0
M'r'ng'r'll	b	56	34	0
Moree	g	59	48	0
Moruya	b	51	44	0
Moss Vale	—	—	—	—
Mt. Hope	f	56	40	0
M. Vict'ria	n	48	32	0
Mudgee	n	62	25	0
M'rr'mb'h	n	63	33	0
M'r'r'ndi	n	52	30	0
Mus'lbr'k	f	57	31	0
Narrabri	b	54	37	0
Newcastle	o	65	36	0
Orange	n	46	32	0
Picton	n	[illegible]	[illegible]	0
P. M'q'rie	c	62	45	0
P. St'ph'n	c	[illegible]	42	0
Q'nbeyan	n	[illegible]	31	0
Quirindi	g	58	35	0
Singleton	b	56	47	0
SYDNEY	c	59	47	0
Taralga	g	66	34	0
Taree	b	62	45	0
T'nt'rfield	g	54	41	0
Wagga	f	56	24	0
Walcha	n	51	23	0
Walgett	b	55	39	0
We[illegible]h	b	58	—	0
W'ntw'rth	c	54	42	0
W'll'ng'ng	g	63	55	0
Young	n	63	33	0

SYDNEY OBSERVATORY.

LATITUDE 33° 51' 41" S. LONGITUDE 10h. 4m. [illegible] E.
MAGNETIC VARIATION, 9° 35' 37" E.

Average Annual Rainfall for 28 years............ 49·489
Average for 29 years from Jan. 1 to May 31 1887 .. 25·493
Total Rainfall from Jan. 1, to June 16 1887 34·072
Barometers corrected to 32° Fah. and Mean Sea Level

Fine, wind N. Cloudy, wind E. Storm, wind S. Rain, wind W. If it is calm, the symbol used without the arrow. Smooth sea. Heavy sea. Very heavy sea.



NOTES EXPLANATORY OF MAP.

In the list of stations the column headed W... gives the state of the weather at 9 a.m., b standing for blue sky; c, detached clouds; d, drizzling rain; f, fog; g, gloomy; h, hazy; m, misty; n, frosty; o, overcast; p, passing showers; r, rain; s, snow; t, thunder; u, threatening. The next column ... gives the maximum temperature for previous 24 hours. M'n the corresponding minimum temperature; R'n, the rain for the previous 24 hours. The symbols used on the map are explained on the margin. At each coast station the wind symbol is placed like a vane pointing to the direction from which the wind is coming. A clear circle with it means fine weather; a circle with bar, cloudy weather; and a black spot, raining. Next to this symbol are placed figures denoting the number of miles the wind is moving per hour; next, a symbol showing the state of the sea; and, lastly, figures denoting the shade temperature at 9 a.m. The barometer curve shows the state of barometers round the coast from Perth to Cooktown:—Pt, Perth; Ay, Albany; Ea, Eucla; CB, Cape Borda; A, Adelaide; Re, Robe; P, Portland; M, Melbourne; WP, Wilson's Promontory; Go, Gabo; E, Eden; Ma, Moruya; CG Jervis Bay; Wg, Wollongong; S, Sydney; N, Newcastle; PM, Port Macquarie; C, Clarence River; B, Brisbane; R, Rockhampton; Ct, Cooktown. Inland the state of barometer is given in figures at Albury, Deniliquin, Wentworth, Menindie, Bourke, and Alice Springs. The barometer curve enables one at a glance to trace the depressions, beginning with Western Australia, and passing along eastwards; northerly winds preceding them, and southerly following.

The rainfall on Sundays or holidays, when this map is not published, is in all cases included in the quantities shown by the next following map.

9 A.M. OBSERVATIONS.

Western Australia.—Generally gloomy and threatening rain, especially in S.W. parts; light N. to E. winds, falling barometers, and smooth to moderate sea. Rainfall: Geraldton and Perth, 0·03 inch. Extremes of barometers and temperature: Esperance Bay, 30·10 and 45°; Albany, 29·76; and Carnarvon, 79°.

South Australia.—Generally fine but cloudy, and in parts gloomy and showery, with frost and fog on the ranges; light S.E. to E. winds and calms, falling barometers, and smooth sea. Rain fell along the coast and ranges—Woorooka, 0·28; Willungra, 0·26; Gulwa, 0·21; and Crafers, 0·17 inch. Extremes of barometers and temperature: Alice Springs, 30.36 and 47°; Port Darwin, 30·10 and 65°.

Victoria.—Generally overcast, misty, and showery, with light to fresh S. to E. winds, falling barometers, and moderate sea. Rainfall: Portland, 0·12; Lakes Entrance and Hamilton, 0·10; Ballarat, 0·07; and Omeo, 0·05 inches. Extremes of barometers and temperature: Echuca, 30·24; Lakes' Entrance, 30·05; Horsham, 56°; Omeo, 41°.

Tasmania.—Generally raining lightly, and overcast, with strong southerly winds, risen barometers, and moderate to rough sea. Rainfall: Generally from 0·11 to 0·20 inches. Extremes of barometers and temperature: Southport, 30·23 and 19°; Falmouth, 30·09 and 43°.

New Zealand.—Showery and overcast throughout, with S.W. winds in north, and easterly winds in extreme south. Rainfall: Wellington, 1·20 inch. Barometers: In north, 29·1; over the centre, 29·2; and in south, 29·7.

New South Wales.—Cloudy and threatening rain on and near the coast and in N.E. parts, cloudy and dull along the Darling; over the remainder of the colony, fine, with fog at scattered places in central and S.W. parts. Severe frost along the ranges. Winds: Light S. to W. and calms inland, strong S. to S.W. along the coast, and blowing a gale from south, with very heavy sea at Cape St. George. The sea is generally rough from Gabo to Port Macquarie. Extra stations: Gabo Island, 0·31 inch rain; Brewarrina, max. 53°, min. 33°, and fine; Tamworth, max. 55°, min. [illegible]°, and fine. Extremes of barometers and temperature: Wentworth, 30·27; Gabo Island 29·99; Wollongong, 53°; and Bathurst, 32°. For further particulars see map.

Queensland.—Generally showery or threatening, with light variable winds and calms, fallen barometers, and smooth sea. Rainfall: Rockhampton, 0·70; Townsville, 0·60; Cooktown, [illegible]; Normanton, 0·53; Blackall, 0·34; Boulia, 0·08; and Cape Moreton, 0·02 inches. Extremes of barometers and temperature: Townsville, 30·10; Brisbane, 30·00; Roma, 47°; and Cooktown,

3 P.M. OBSERVATIONS.

Victoria.—Portland, S.E. 28, showery, smooth sea, temperature 53°; Cape Otway, S.E., 23, threatening, smooth sea, temperature 53°; Melbourne, S.S.E., 8, passing showers, temperature 51°; Cape Schanck, E., 13, fine, but cloudy, moderate sea, temperature 56°; Wilson's Promontory, S.E., 23, fine, squally, moderate sea, temperature 50°; Lakes' Entrance, S.E., 28, threatening, temperature 52°.

New South Wales.—Menindie, W.S.W., 28, cloudy and cold, temperature 56°; Wentworth, S., 28, cloudy, temperature 53°; Deniliquin, calm, fine, temperature 60°; Eden, S.W., 28, fine, but cloudy, light E. sea, temperature 55°; Cape St. George, S., 56, cloudy, very heavy sea, temperature 58°; Sydney, S.S.W., 19, cloudy, gloomy, and squally, heavy sea, temperature 54°; Newcastle, S.W., 14, cloudy, heavy sea, temperature 57°; Port Macquarie, S.S.W., 42, fine, but cloudy, heavy sea, temperature 62°; Clarence River, W., 14, dull, moderate sea, temperature 59°; Walgett, calm, fine, temperature 59°; Dubbo, calm, fine, temperature 56°; Goulburn, S.S.W., 14, fine, temperature 59°.

Queensland.—Blackall, S.W., 14, overcast and like rain; Boulia, S.W., 23, fine; Townsville, calm, very cold and misty rain falling, temperature 60°; Mackay, S.E., 8, showery; Normanton, S.[illegible], 8, fine, but cloudy, temperature 74°; Thargomindah, S.E., 23, cloudy; Roma, S., 8, cloudy, temperature 57°; Rockhampton, W.S.W., 8, overcast, temperature 54°; Bourketown, S.E., 8, cloudy; Cape Moreton S.W., 8, overcast, temperature 53°; Brisbane, calm, cloudy, temperature 56°; Hughenden, S.E., 19, overcast, like rain, very cold.

HEIGHT OF RIVERS ABOVE SUMMER LEVEL.

Macintyre: At Mungindi, low. Barwon: At Mogil Mogil, low; at Walgett, low. Namoi: At Walgett, low. Culgoa at Goodooga, low. Darling: At Brewarrina, low; at Bourke, 4 inches; at Louth, 3 feet 9 inches; at Tilpa, 4 feet 8 inches; at Wilcannia, 7 feet; at Menindie, 22 feet 7 inches; at Pooncarie, 23 feet 7 inches; at Wentworth, 12 feet 3 inches. Murrumbidgee: At Gundagai, 10 feet 3 inches; at Wagga, 13 feet 6 inches; at Hay, 6 feet 6 inches; at Balranald, 6 feet; Murray: At Albury, 5 feet 1 inch; at Euston, 5 feet 10 inches.

ASTRONOMICAL MEMORANDA FOR JUNE 17.

Sun rises at 7.5, sets at 4.56; Moon rises at 2.50 a.m., sets at 2.6 p.m.; Mercury, 8.37 a.m., 6.19 p.m.; Venus, 10.3 a.m., 8.13 p.m.; Mars, 6.6 a.m., 4.1 p.m.; Jupiter, 1.31 p.m., 2.25 a.m.; Saturn, 8.59 a.m., 6.58 p.m. Full moon, 6th; new moon, 21st.

High water at Fort Denison: 4.33 a.m., 5.4 p.m.

H. A. LENEHAN,
Acting Government Astronomer.

Stations.	wt.	Max.	Min.	Rn.
Albury ..	b	58	33	0
Armidale	g	50	35	0
Balranald	b	64	35	0
Bathurst	i	55	27	0
Bendem'r	f	54	32	0
Bodalla ..	b	62	41	0
Bourke ..	c	54	49	0
Bungarra	f	—	38	0
C'md'n H.	b	62	51	0
C. St. Geo.	b	66	50	0
Carcoar ..	n	47	29	0
Casino ..	b	67	38	0
Cassilis ..	n	50	32	0
Clarence .	b	62	49	0
C'nd'b'lin	b	63	41	0
Cooma ..	c	50	32	0
Coonab'n.	n	60	27	0
Cowra ..	n	57	32	0
Cudg'llico	b	61	46	0
Deniliq'n.	b	70	32	0
Dubbo ..	b	61	25	0
Eden	n	57	47	0·01
Euston ..	b	57	37	0
Forbes ..	n	—	35	0
Glen Inn's	n	50	27	0
Goulburn	n	51	27	0
Grafton ..	b	64	43	0
Gulgong .	f	50	26	0
Gunned'h	b	57	37	0
Hay . ..	b	60	35	0
Inverell ..	f	54	30	0
Kiandra ..	n	40	15	0
Lismore .	b	68	44	0
Maitland .	b	59	40	0
M'n'ng H.	b	59	45	0
Marsdens.	b	56	38	0
Menindie.	g	53	48	0
Molong ..	b	40	26	
M'r'ng'r'll	n	56	32	0
Moree ..	o	58	34	0
Moruya ..	b	58	41	0
Moss Vale	–	—	—	–
Mt. Hope	c	60	41	0
M. Vict'ria	n	46	30	0
Mudgee ..	f	61	26	0
M'rr'mb'h	n	40	29	0
M'rr'r'ndi	n	50	34	0
Mus'lbr'k	b	57	31	0
Narrabri	g	60	39	0
Newcastle	b	65	39	0
Orange ..	n	47	30	0
Picton ..	n	55	30	0
P. M'q'rie	b	62	42	0
P. St'ph'n	b	57	39	0·47
Q'nbeyan	n	59	31	0
Quirindi	n	58	33	0
Singleton	n	57	38	0
SYDNEY ..	b	57	43	0
Taralga ..	g	56	28	0
Taree ...	b	62	44	0
T'nt'rfield	b	59	29	0
Wagga ..	f	54	24	0
Walcha ..	f	52	21	0
Walgett	g	56	40	0
Warrah ..	n	53	—	0
W'ntw'rth	b	56	42	0
W'll'ng'ng	b	59	51	0
Young ...	n	58	28	0

SYDNEY OBSERVATORY.

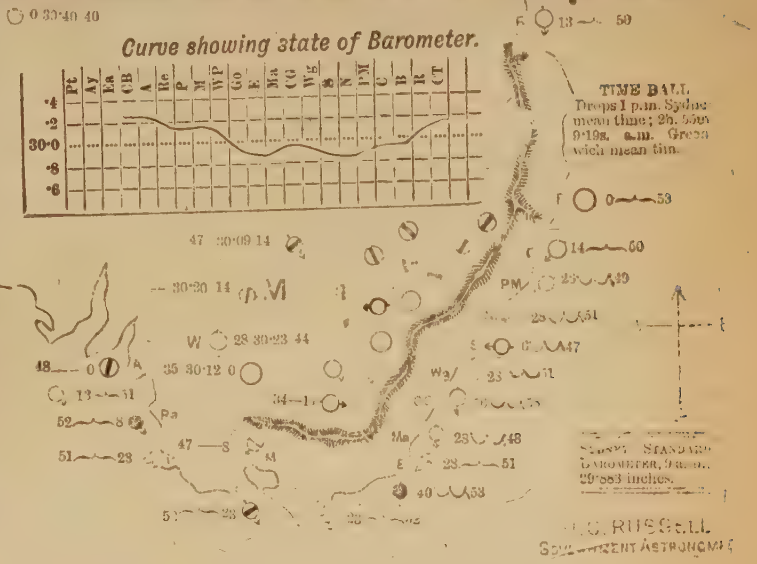
LATITUDE 33° 51' 41" S. LONGITUDE 10h. 4m. 50·81s. E.

MAGNETIC VARIATION, 9° 35' 37" E.

Average Annual Rainfall for 28 years.... . ...40·489
Average for 29 years from Jan. 1 to May 31 1887 .. 25·498
Total Rainfall from Jan. 1, to June 17 1887 ...... 34·072

Barometers corrected to 32° Fah. and Mean Sea Level

Fine, wind N. — Cloudy, wind E. — T. storm, wind S. — Rain, wind W.
If it is CALM, the symbol used without the arrow
Smooth sea.
Heavy sea.
Very heavy sea.



NOTES EXPLANATORY OF MAP.

In the list of stations the column headed W't. gives the state of the weather at 9 a.m., b standing for blue sky; c, detached clouds; d, drizzling rain; f, fog; g, gloomy; h, hazy; m, misty; n, nearly; o, overcast; p, passing showers; r, rain; s, snow; t, thunder; u threatening. The next column, M'x gives the maximum temperature for previous 24 hours. M'n the corresponding minimum temperature; R'n. the rain for the previous 24 hours. The symbols used in the map are explained on the margin. At each coast station the wind symbol is placed like a vane pointing to the direction from which the wind is coming. A clear circle with it means fine weather, a circle with bar, cloudy weather; and a black spot, raining. Next to this symbol are placed figures denoting the number of miles the wind is moving per hour; next, a symbol showing the state of the sea; and, lastly, figures denoting the shade temperature at 9 a.m. The barometer curve shows the state of barometers round the coast from Perth to Cooktown:—Pt, Perth; Ay, Albany; Ea, Eucla; CB, Cape Borda; A, Adelaide; Re, Robe; P, Portland; M, Melbourne; W P, Wilson's Promontory; Go, Gabo; E, Eden; Ma, Moruya; C G Jervis Bay; Wg, Wollongong; S, Sydney; N, Newcastle; P M, Port Macquarie; C, Clarence River; B, Brisbane; R, Rockhampton; Ct, Cooktown. Inland the state of barometer is given in figures at Albury, Deniliquin, Wentworth, Menindie, Bourke, and Alice Springs. The barometer curve enables one at a glance to trace the depressions, beginning with Western Australia, and passing along eastwards; northerly winds preceding them, and southerly following.

The rainfall on Sundays or holidays, when this map is not published, is in all cases included in the quantities shown by the next following map.

9 A.M. OBSERVATIONS.

Western Australia.—No telegrams.

South Australia.—Overcast and gloomy between Burra and Peake, scattered clouds on the coast, but fine and clear in parts, and a good deal of fog and frost prevailing. Winds: Light S. to S.E., and calms. Barometers risen slightly, and the sea smooth. Rainfall: Port Lincoln, 0·11; Cape Northumberland, 0·10; and Cape Borda, 0·06. Extremes of barometers and temperature: Alice Springs, 30·40 and 40°; Port Darwin, 30·12 and 70°.

Victoria.—Generally cloudy, gloomy, unsettled, with showers at places, light S.E. to S.W. winds, slightly fallen barometers, and smooth to moderate sea. Rainfall: Cape Schanck, 0·15; Lakes' Entrance, 0·23; Wilson's Promontory, 0·08; and Omeo, 0·05 inches. Extremes of barometers and temperature: Echuca, 30·18; Lakes' Entrance, 29·95; Horsham, 58°; and Echuca, 39°.

Tasmnia.—Fine in north and showery in south parts, with light to fresh southerly winds, fallen barometers, and moderate to rough sea. Rainfall: Hobart: 0·78; and Falmouth, 0·39 inches. Extremes of barometers and temperature: Hobart, 30·11; and 48°; Falmouth, 30·07; and Circular Heads, 45°.

New Zealand.—Generally fine, with E. to S.E. winds and rough sea; blowing a gale from S.E. at Wellington, but now moderating, and 1·15 inch rain fallen. Barometers: In extreme south, 29·9; to northward, 29·8.

New South Wales.—Cloudy and gloomy in N.W. parts, and in extreme S.E.; passing showers at Gabo Island; over the remainder of the colony fine and clear, but cold weather. Foggy and frosty along the ranges. Winds: Light W. to S. and calms inland; fresh to strong south-westerly, with heavy sea along the coast. Extra Stations: Gabo Island, 0·48 inch rain; Tamworth, maximum 61°, minimum 30°, and dense fog; Brewarrina, maximum 54°, minimum 34°, and fine weather. Extremes of barometers and temperature: Wentworth, 30·23; Eden, 29·84; Cape St. George, 58°, and Bathurst 29°. For further particulars see map.

Queensland.—Generally fine, with light to fresh S.E. to S.W. winds, fallen barometers, and smooth sea. Rainfall: Mackay, 0·15; Townsville and Rockhampton, 0·08 inches. Extremes of barometers and temperature: Normanton, 30·20; Roma, 29·99 and 51°; Cooktown, 79°.

3 P.M. OBSERVATIONS.

Victoria.—Portland, S., 18, passing showers, smooth sea, temperature 53°; Cape Otway, S., 18, cloudy and misty, smooth sea, temperature 52°; Melbourne, S.W., 13, gloomy, temperature 52°; Cape Schanck, S.E., 13, fine, but cloudy, moderate sea, temperature 55°; Wilson's Promontory, S., 23, overcast and squally, moderate sea, temperature 51°; Lakes' Entrance, S., 28, overcast and squally, temperature 53°.

New South Wales.—Menindie, S.S.W., 28, fine, temperature 55°; Wentworth, S., 14, fine, temperature 53°; Deniliquin, calm, fine and clear, temperature 59°; Eden, S.W., 42, cloudy and like rain, heavy E. sea, temperature 56°; Moruya, S.W., 28, gloomy, sea going down, temperature 58°; Cape St. George, S., 56, cloudy, heavy sea, temperature 60.; Sydney, S.W., 13, cloudy and dull, heavy sea, temperature 58°; Newcastle, W.S.W., 14, fine, heavy sea, temperature 62°; Port Macquarie, S.S.W., 42, fine and clear, heavy sea, temperature 61°; Clarence River, S., 28, fine, temperature 62°; Walgett, S.W., 14, dull and like rain, temperature 55°; Dubbo, W., 14, fine but cloudy, temperature 57°; Goulburn, W., 14, fine, temperature 58°.

Queensland.—Cooktown, calm, gloomy, slight sea, temperature 70°; Hughenden, N.E., 8, fine and cold; Normanton, S.E., 13, fine and clear, temperature 76°; Townsville, S.E., 13, fine and clear, temperature 68°; Blackall, S.W., 13 fine and cool; Bowen, S.E., fine and clear; Cape Moreton, S.W., 23, fine, temperature 61°; Brisbane, W., 13, fine, temperature 63°.; Thargomindah, S.W., cloudy.

HEIGHT OF RIVERS ABOVE SUMMER LEVEL.

Macintyre: At Mungindi, low. Barwon: At Mogil Mogil, low; at Walgett, low. Namoi: At Walgett, low. Culgoa at Goodooga, low. Darling: At Brewarrina, low; at Bourke, low; at Louth, 3 feet 8 inches; at Tilpa, 4 feet 6 inches; at Wilcannia, 7 feet; at Menindie, 22 feet 3 inches; at Pooncarie, 23 feet 7 inches; at Wentworth, 12 feet 3 inches. Murrumbidgee: At Gundagai, 10 feet; at Wagga, 11 feet; at Hay, 7 feet; at Balranald, 6 feet 1 inch. Murray: At Albury, 5 feet 1 inch; at Euston, 8 feet 7 inches.

ASTRONOMICAL MEMORANDA FOR JUNE 18.

Sun rises at 7.5, sets at 4.56; Moon rises at 3.45 a.m., sets at 2.41 p.m.; Mercury, 8.39 a.m., 6.23 p.m.; Venus, 10.2 a.m., 8.14 p.m.; Mars, 6.6 a.m., 4.0 p.m.; Jupiter, 1.27 p.m., 2.21 a.m.; Saturn, 8.56 a.m., 6.55 p.m. Full moon, 6th; new moon, 21st.

High water at Fort Denison: 5.34 a.m., 6.4 p.m.

H. A. LENEHAN,
Acting Government Astronomer.

SYDNEY OBSERVATORY.

LATITUDE 33° 51' 41" S. LONGITUDE 10h. 4m. 50·31s. E.

MAGNETIC VARIATION, 9° [illegible] E.

Average Annual Rainfall for 28 years.................40·480
Average for 29 years from Jan. 1 to May 31 1887 .. 25·493
Total Rainfall from Jan. 1, to June 18 1887 ...... 34·072

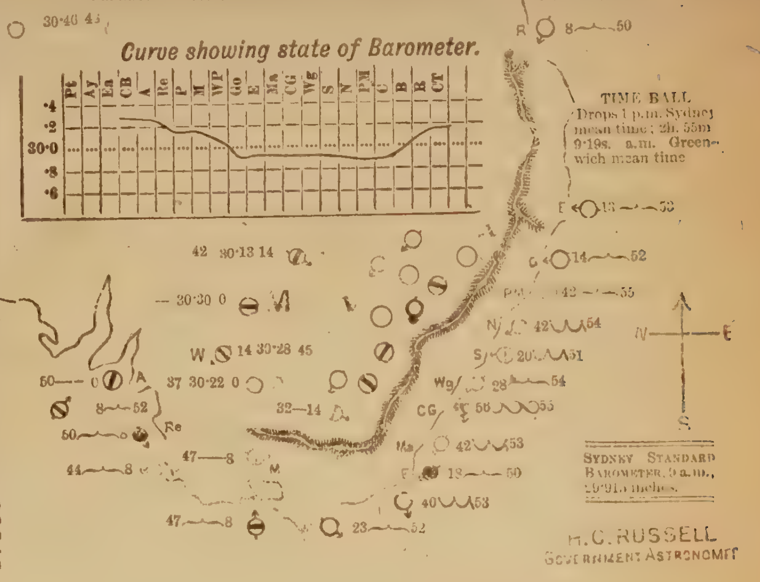
Barometers corrected to 32° Fah. and Mean Sea Level

Fine, wind N. Cloudy, wind E. T. storm, wind S. Rain, wind W. If it is calm, the symbol used without the arrow. Smooth sea. Heavy sea. Very heavy sea.

Albury ..	b	55	31	0
Armidale	c	44	37	0
Balranald	c	66	32	0
Bathurst	c	52	29	0
Bendem'r	g	54	34	0
Bodalla ..	h	62	53	0
Bourke ..	b	60	39	0
Buncarra	n	—	30	0
C'md'n H.	b	65	52	0
C. St. Geo.	r	63	52	0
Carcoar ..	f	47	33	0
Casino ..	b	68	34	0
Cassilis ..	n	52	34	0
Clarence .	b	65	50	0
C'nd'b'lin	n	62	36	0
Cooma ..	c	55	39	0·07
Coonab'n.	b	50	36	0
Cowra	f	55	34	0
Cudg'llico	f	53	31	0
Deniliq'n.	n	63	32	0
Dubbo ..	f	57	28	0
Eden	r	57	48	0·15
Euston ..	b	68	22	0
Forbes ..	n	–	36	0
Glen Inn's	n	45	29	0
Goulburn	g	51	30	0

EUCLA

Grafton ..	b	65	44	0
Gulgong .	h	50	27	0
Gunned'h	h	58	38	0
Hay ..	b	58	36	0
Inverell ..	n	52	30	0
Kiandra ..	c	51	28	0
Lismore .	b	68	42	0
Maitland .	b	58	41	0
M'n'ng H.	h	60	46	0
Marsdens.	n	56	38	0
Menindie.	h	56	42	0
Molong ..	g	40	31	
M'r'ng'r'll	f	57	33	0
Moree ..	g	64	35	0
Moruya ..	h	63	47	0
Moss Vale	–	—	—	–
Mt. Hope	f	61	36	0
M. Vict'ria	h	46	32	0
Mudgee ..	n	60	29	0
M'rr'mb'h	b	62	30	0
M'rr'r'ndi	b	51	37	0
Mus'lbr'k	b	60	31	0
Narrabri	f	61	34	0
Newcastle	b	64	49	0
Orange ...	b	44	33	0
Picton ..	b	57	46	0
P. M'q'rie	b	61	47	0
P. St'ph'n	c	56	43	0
Q'nbeyan	b	57	34	0
Quirindi	n	58	34	0
Singleton	h	56	42	0
SYDNEY ..	b	58	48	0
Taralga ..	b	61	31	0
Taree ...	b	62	45	0
T'nt'rfield	b	52	36	0
Wagga ..	f	55	24	0
Walcha ..	g	45	27	0
Walgett	n	57	37	0
Warrah ..	n	53	—	0
W'ntw'rth	g	58	40	0
W'll'ng'ng	b	60	55	0
Young ..	f	76	28	0



NOTES EXPLANATORY OF MAP.

In the list of stations the column headed W.T. gives the state of the weather at 9 a.m., b standing for blue sky; c, detached clouds; d, drizzling rain; f, fog; g, gloomy; h, hazy; m, misty; n, frosty; o, overcast; p, passing showers; r, rain; s, snow; t, thunder; u, threatening. The next column, M'x gives the maximum temperature for previous 24 hours. M'n the corresponding minimum temperature; r'n, the rain for the previous 24 hours. The symbols used in the map are explained on the margin. At each coast station the wind symbol is placed with a vane pointing to the direction from which the wind is coming. A clear circle with it means fine weather; a circle with bar, cloudy weather; and a black spot, raining. Next to this symbol are placed figures denoting the number of miles the wind is moving per hour; next, a symbol showing the state of the sea; and, lastly, figures denoting the shade temperature at 9 a.m. The barometer curve shows the state of barometers round the coast from Perth to Cooktown:—Pt, Perth; Ay, Albany; Ea, Eucla; CB, Cape Borda; A, Adelaide; Re, Robe; P, Portland; M, Melbourne; W P, Wilson's Promontory; Go, Gabo; E, Eden; Ma, Moruya; CG Jervis Bay; Wg, Wollongong; S, Sydney; N, Newcastle; PM, Port Macquarie; C, Clarence River; B, Brisbane; R, Rockhampton; Ct, Cooktown. Inland the state of barometer is given in figures at Albury, Deniliquin, Wentworth, Menindie, Bourke, and Alice Springs. The barometer curve enables one at a glance to trace the depressions, beginning with Western Australia, and passing along eastwards; northerly winds preceding them, and southerly following.

The rainfall on Sundays or holidays, when this map is not published, is in all cases included in the quantities shown by the next following map.

9 A.M. OBSERVATIONS.

South Australia.—Generally more or less cloudy, but fine, with fog and frost in parts; very light variable winds and calms, risen barometers, and smooth sea. Rainfall: Mount Gambier, 0·24; Robe, 0·16; and Cape Northumberland, 0·14 inches. Extremes of barometers and temperature: Alice Springs, 30·46; Port Darwin, 30·16 and 66°; Cape Northumberland, 47°.

Victoria.—Generally more or less cloudy and unsettled, with misty rain at Ballarat; light variable winds and calms, slightly risen barometers, and smooth to moderate sea. Rainfall: Cape Schanck, 0·15; Portland, 0·12; Wilson's Promontory, 0·09; and from 0·02 to 0·03 inches at other places. Extremes of barometers and temperature: Horsham, 30·2[illegible] and 58°; Omeo, 30·07; and Hamilton 39°.

Tasmania.—Fine on the north coast, misty rain or threatening along the east coast and in south parts, with fresh S. to E. winds, risen barometers, and rough sea. Rainfall: Southport 0·21; and Hobart, 0·18 inches. Extremes of barometers and temperature: Southport, 30·23 and 45°; Falmouth, 30·10 and 48°.

New Zealand.—Showery and squally from N.E. in extreme north; gloomy, with S.E. wind, over centre; fine, with N.E. wind, in south. Barometers: In north, 29·5; over the centre, 29·9; and in south 30°.

New South Wales.—Generally fine and cold, with clouds at scattered places. Passing showers at Eden and Cape St. George. Much fog west of the ranges. Winds: Light westerly and calms inland, fresh to strong south-westerly along the coast, and blowing a southerly gale, with very heavy sea, at Cape St. George. The sea is moderate north of Manning Heads, but heavy along the coast to southward. Extra stations: Gabo Island, 0.08 inch rain fallen; Brewarrina, max. 55°, min. 34°, and fine weather; Katoomba, max. 45°, min. 33, fine but cold. Extremes of barometers and temperature: Menindie, 30·30; Port Macquarie, 29·86; Port Macquarie, 55°; and Bathurst, 32°. For further particulars see map.

Queensland.—Generally fine and cold, with fresh southerly winds, risen barometers, and smooth sea. Extremes of barometers and temperature: Normanton, 30·24; Brisbane, 29·94; Roma, 51°; and Cooktown, 76°.

3 P.M. OBSERVATIONS.

Victoria.—Portland, calm, fine, but cloudy, smooth sea, temperature 55°; Cape Otway, S.W., 8, fine and clear, smooth sea, temperature 55°; Wilson's Promontory, S.E., 18, fine but cloudy, moderate sea, temperature 52°.

New South Wales.—Menindie, S.W., 28, dull, temperature 56°; Wentworth, S., fine, temperature 53°; Deniliquin, S.W., fine and clear, temperature 57°; Moruya, S.W., 56, threatening, rough sea, temperature 58°; Cape St. George, S., 56, cloudy, rough sea, temperature 63°; Sydney, S.S.W., cloudy, rough sea, Newcastle, W.S.W., 28, cloudy, rough sea, temperature 61°; Port Macquarie, S.S.W., 56, fine, moderate sea, temperature 63°; Clarence River, W., 8, fine, moderate sea, temperature 63°; Walgett, S.W., fine, temperature 58°; Dubbo, S.W., fine, temperature 54°; Goulburn, S.W., fine, temperature 61°.

Queensland.—Thargomindah, S.E., fine; Cooktown, S.E., 3, fine and clear, slight sea, temperature 69°; Normanton, S.E., 13, fine and clear, temperature 83°; Boulia, S.E., 8, fine; Townsville, S., 18, fine and clear, temperature 68°; Mackay, S.W., 13, fine; Rockhampton, S.W., 23, fine and clear, temperature 60°; Roma, S.S.W., 8, fine and clear, temperature 64°; Hughenden, N.E., 18, fine and warm; Cape Moreton, S.W., 23, fine, temperature 63°; Blackall, S.E., fine and cold.

HEIGHT OF RIVERS ABOVE SUMMER LEVEL.

Macintyre: At Mungindi, low. Barwon: At Mogil Mogil, low; at Walgett, low. Namoi: At Walgett, low. Culgoa, at Goodooga, low. Darling: At Brewarrina, low; at Bourke, summer level; at Louth, 3 feet 7 inches; at Tilpa, 4 feet 4 inches; at Wilcannia, 7 feet; at Menindie, 21 feet 11 inches; at Pooncarie, 23 feet 5 inches; at Wentworth, 12 feet 3 inches. Murrumbidgee: At Gundagai, 9 feet 6 inches; at Wagga, 9 feet 3 inches; at Hay, 7 feet 3 inches; at Balranald, 6 feet 6 inches. Murray: At Albury, 4 feet 9 inches; at Euston, 5 feet 8 inches.

ASTRONOMICAL MEMORANDA FOR JUNE 20.

Sun rises at 7.6, sets at 4.57; Moon rises at 5.38 a.m.; sets at 4 p.m.; Mercury, 8.44 a.m., 6.31 p.m.; Venus, 10.1 a.m., 8.17 p.m.; Mars, 6.5 a.m., 3.58 p.m.; Jupiter, 1.19 p.m., 2.13 a.m.; Saturn, 8.49 a.m., 6.49 p.m. Full moon, 6th; new moon, 21st.

High water at Fort Denison: 7.17 a.m., 7.39 p.m.

H. A. LENEHAN,
Acting Government Astronomer.

SYDNEY OBSERVATORY.

LATITUDE 33° [illegible] Longitude [illegible] E.

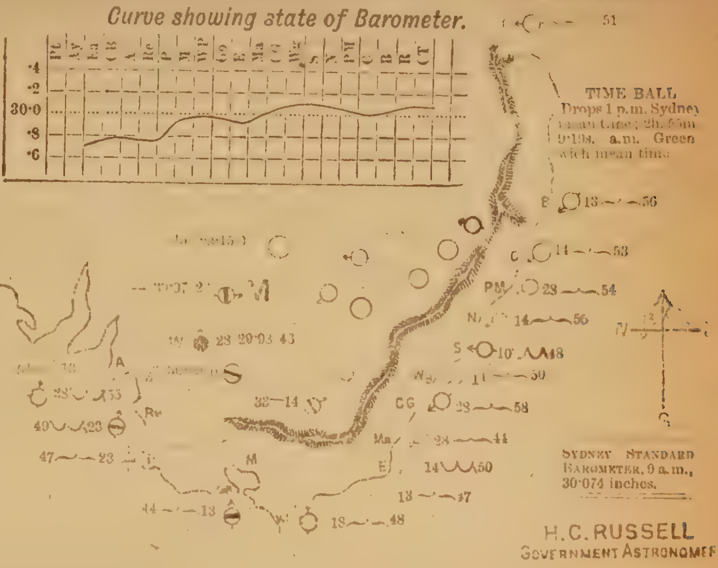
[illegible]

[illegible] Annual Rainfall for [illegible] years .... [illegible]
Average for 29 years from Jan. 1 to May 31 1887 .... [illegible]
Total Rainfall from Jan. 1, to June 20 1897 ...... 34·081
Barometers corrected to 32° Fah. and Mean Sea Level

[illegible] wind [illegible] T, storm, [illegible] rain [illegible] wind [illegible] the symbol used without the arrow [illegible] Heavy sea [illegible] Very heavy sea.

Albury	c	58	31	0
Armidale	b	49	36	0
Balranald	c	71	35	0
Bathurst	b	57	31	0·0[illegible]
Bendem'r	b	5[illegible]	3[illegible]	0
Bodalla	b	62	[illegible]	0
Bourke	b	62	38	0
Bungarra	b		23	0
C'md'n H.	b	62	54	0
C. St. Geo.	b	67	49	0
Carcoar	n	45	30	0
Casino	b	71	34	0
Cassilis	n	51	35	0
Clarence	b	68	51	0
C'nd'b'lin	n	61	34	0·09
Cooma	f	52	25	0·11
Coonab'n.	n	59	25	0
Cowra	f	44	33	0
Cudg'llico	n	58	29	0
Deniliq'n.	c	74	32	0
Dubbo	b	59	26	0
Eden	b	67	47	0·02
Euston	r	74	37	0
Forbes	b	—	34	0
Glen Inn's	n	52	34	0·02
Goulburn	f	54	29	0
Grafton	b	68	42	0
Gulgong	f	50	28	0
Gunned'h	-	—	—	–
Hay	g	60	34	0
Inverell	b	54	35	0
Kiandra	c	40	21	0
Lismore	c	70	46	0
Maitland	b	59	44	0·01
M'n'ng H.	b	59	51	0
Marsdens	f	57	39	0
Menindie	g	59	44	0
Molong	b	39	26	0
M'r'ng'r'll	b	57	31	0
Moree	b	6[illegible]	33	0
Moruya	b	62	41	0
Moss Vale	f	49	35	0
Mt. Hope	b	65	36	0
M. Vict'ria	n	50	33	0
Mudgee	n	67	26	0
M'rr'mb'h	n	63	29	0
M'rr'r'ndi	n	54	39	0
Mus'lbr'k	f	60	30	0
Narrabri	b	62	31	0
Newcastle	b	59	48	0·31
Orange	b	48	31	0
Picton	b	58	33	0
P. M'q'rie	b	64	50	0·10
P. St'ph'n	c	57	43	1·21
Q'nbeyan	–	–	–	–
Quirindi	n	57	33	0
Singleton	b	57	43	0
SYDNEY	b	57	46	0·01
Taralga	n	59	25	0
Taree	–	–	–	
T'nt'rfield	b	55	29	0
Wagga	g	57	25	0
Walcha	n	49	42	0
Walgett	n	58	33	0
Warrah	n	59	—	0
W'ntw'rth	r	62	41	0·03
W'll'ng'ng	b	61	52	0
Young	b	79	28	0

Curve showing state of Barometer.



H. C. RUSSELL
GOVERNMENT ASTRONOMER

NOTES EXPLANATORY OF MAP.

In the list of stations the column headed W.T. gives the state of the weather at 9 a.m., b standing for blue sky; c, detached clouds; d, drizzling rain; f, fog; g, gloomy; h, hazy; m, misty; n, frosty; o, overcast; p, passing showers; r, rain; s, snow; t, thunder; u, threatening. The next column, M.x gives the maximum temperature for previous 24 hours. And the next gives the minimum temperature. R.f., the rain for the previous 24 hours. The symbols used on the map are explained on the margin. At each coast station the wind symbol is placed at the vane pointing to the direction from which the wind is coming. A clear circle with it means fine weather; a circle with bar, cloudy weather; and a black spot, raining. Next to this symbol are placed figures denoting the number of miles the wind is moving per hour; next, a symbol showing the state of the sea; and, lastly, figures denoting the shade temperature at 9 a.m. The barometer curve shows the state of barometers round the coast from Perth to Cooktown: Pt, Perth, Ay, Albany, Ea, Eucla, CB, Cape Borda, A, Adelaide; Re, Robe; P, Portland, M, Melbourne; WP, Wilson's Promontory; Go, Gabo; E, Eden; Ma, Moruya; CG Jervis Bay, Wg, Wollongong; S, Sydney; N, Newcastle; PM, Port Macquarie; C, Clarence River; B, Brisbane; R, Rockhampton; C, Cooktown. Inland the state of barometer is given by figures at Albury, Deniliquin, Wentworth, Menindie, Bourke, and Alice Springs. The barometer curve enables one at a glance to trace the depressions, beginning with Western Australia, and passing along eastwards; northerly winds preceding them, and southerly following.

The rainfall on Sundays or holidays, when this map is not published, is in all cases included in the quantities shown by the next following map.

9 A.M. OBSERVATIONS.

Western Australia.—No telegram.

South Australia.—Generally fine, with scattered clouds; overcast with light rain on Flinders range. Fresh to strong N.E. to N.W. wind, fallen barometers, and rough sea. Rain has fallen south of Hawker, generally from 0·05 to 0·20; on Mount Lofty ranges, from 0·10 to 0·25 inches. Extremes of barometers and temperature: Alice Springs, 30·14; Eucla, 29·69; Port Darwin, 64°; and Cape Northumberland, 44°.

Victoria.—Generally overcast and gloomy, with fresh northerly winds, fallen barometers, and moderate sea. From 0·02 to 0·04 inches rain fallen generally, 0·05 at Lakes Entrance, and 0·11 at Horsham. Extremes of barometers and temperature: Omeo, 30·13 and 36°; Portland, 29·78; and Horsham, 53°.

Tasmania.—Generally more or less cloudy, with light variable winds, fallen barometers, and moderate to rough sea. Extremes of barometers and temperature: Low Heads, 30·03 and 45°; Hobart, 29·97 and 42°.

New Zealand.—No telegram.

Queensland.—Generally fine and cold in south parts, with light S.E. to S.W. winds, fallen barometers, and smooth sea. No reports from north parts. Extremes of barometers and temperature: Roma, 30·17 and 45°; Rockhampton, 30·05; and Cape Moreton, 59°.

New South Wales.—Generally fine, with frosts and fogs along the ranges. On the Lower Darling and along the Murray it is cloudy, with light rain falling at Wentworth and Euston. During the previous 48 hours rain fell at scattered places. Winds: Light westerly and calms. Sea: Still rough at places, but moderating. Extra stations: Katoomba, max. 45°, min. 34°, frosty and fine; Tamworth, max. 57°, min. 27°, dense fog; Brewarrina, max. 59°, min. 35°, fine. Extremes of barometers and temperature: Walgett, 30·15; Eden, 29·95; Cape St. George, 58°; and Cooma, 31°. For further particulars see map.

3 P.M. OBSERVATIONS.

Queensland.—Cooktown, S.E., 8, fine, smooth, temperature 61°; Townsville, S., 11, fine, smooth, temperature 58; Hughenden, calm, fine and cold; Cape Moreton, S.S.W., 18, fine, temperature 65°.

HEIGHT OF RIVERS ABOVE SUMMER LEVEL.

Macintyre: At Mungindi, low. Barwon: At Mogil Mogil, low; at Walgett, low. Namoi: At Walgett, low. Culgoa, at Goodooga, low. Darling: At Brewarrina, low; at Bourke, low; at Louth, 3 feet 7 inches; at Tilpa, 4 feet; at Wilcannia, 7 feet; at Menindie, 21 feet 4 inches; at Pooncarie, 23 feet 4 inches; at Wentworth, 12 feet. Murrumbidgee: At Gundagai, 6 feet 6 inches; at Wagga, 7 feet 6 inches; at Hay, 7 feet 9 inches; at Balranald, 9 feet 4 inches. Murray: At Albury, 4 feet 9 inches; at Euston, 5 feet 9 inches.

ASTRONOMICAL MEMORANDA FOR JUNE 21.

Sun rises at 7.6, sets at 4.57; Moon rises at 6.36 a.m.; sets at 4.48 p.m.; Mercury, 8.47 a.m., 6.35 p.m.; Venus, 10.1 a.m., 8.19 p.m.; Mars, 6.4 a.m., 3.56 p.m.; Jupiter, 1.15 p.m., 2.9 a.m.; Saturn, 8.45 a.m., 6.45 p.m. Full moon, 6th; new moon, 21st.

High water at Fort Denison: 8.2 a.m., 8.24 p.m.

H. A. LENEHAN,
Acting Government Astronomer.

Albury	n	[illegible]	[illegible]	0·57
Armidale	u	[illegible]	[illegible]	0·27
Balranald	n	[illegible]	[illegible]	[illegible]
Bathurst	c	[illegible]	[illegible]	[illegible]
Bombala	r	[illegible]	[illegible]	[illegible]
Bodalla	g	[illegible]	[illegible]	0
Bourke	b	[illegible]	[illegible]	0·34
Bungarra	n	[illegible]	[illegible]	0·34
C'md'n H.	b	66	43	0
C. St. Geo.	[illegible]	[illegible]	[illegible]	0
Carcoar	g	[illegible]	[illegible]	[illegible]
Casino	c	68	51	0
Cass'lis	c	51	41	0
Clarence	c	62	[illegible]	[illegible]
C'nd'b'lin	u	61	4[illegible]	0·2[illegible]
Cooma	n	53	31	[illegible]
Coonab'n	b	[illegible]	[illegible]	[illegible]
Cowra	n	[illegible]	43	[illegible]
Cudg'llico	b	[illegible]	[illegible]	0·2[illegible]
Deniliq'n	b	[illegible]	[illegible]	[illegible]
Dubbo	n	52	43	0·31
Eden	b	[illegible]	[illegible]	0·04
Euston	b	[illegible]	37	0·9[illegible]
Forbes	u	[illegible]	[illegible]	0·1[illegible]
Glen Inn's	r	47	43	1·0[illegible]
Goulburn	[illegible]	57	36	0
Grafton	u	63	31	0
Gulgong	u	55	33	0·50
Gunned'h	c	55	48	0·35
Hay	c	63	43	0·13
Inverell	u	56	31	0·70
Kiandra	s	39	30	0·42
Lismore	c	65	51	0
Maitland	b	60	50	0
M'n'ng H.	-	—	—	-
Marsdens	g	55	44	0·22
Menindie	b	64	46	0·18
Molong	u	44	29	0·56
M'r'ng'r'll	c	58	45	0·15
Moree	g	55	46	0
Moruya	g	66	43	0
Moss Vale	-	—	—	-
Mt. Hope	b	65	43	0
M. Vict'ria	u	51	85	0·10
Mudgee	c	51	34	0·68
M'rr'mb'h	u	53	45	0·46
M'rr'r'ndi	g	54	47	0·65
Mus'lbr'k	b	61	41	0·12
Narrabri	g	57	49	0·48
Newcastle	b	60	52	0
Orange	r	47	38	1·39
Picton	n	59	34	0
P. M'q'rie	b	63	46	0
P. St'ph'n	b	59	41	0
Q'nbeyan	b	60	37	0·13
Quirindi	r	53	45	0·38
Singleton	b	59	51	0
Sydney	b	62	50	0
Taralga	g	63	41	1·05
Taree	b	62	46	0·01
T'nt'rfield	r	58	45	0·55
Wagga	c	49	39	0·47
Walcha	r	53	36	0·66
Walgett	g	53	49	0·41
Warrah	g	49	—	0·49
W'ntw'rth	b	65	43	0·03
W'll'ng'ng	b	65	52	0
Young	r	56	44	0·31

SYDNEY OBSERVATORY.

LATITUDE [illegible] LONGITUDE [illegible]

MAGNETIC VARIATION, [illegible] E.

Average Annual Rainfall [illegible] years [illegible]

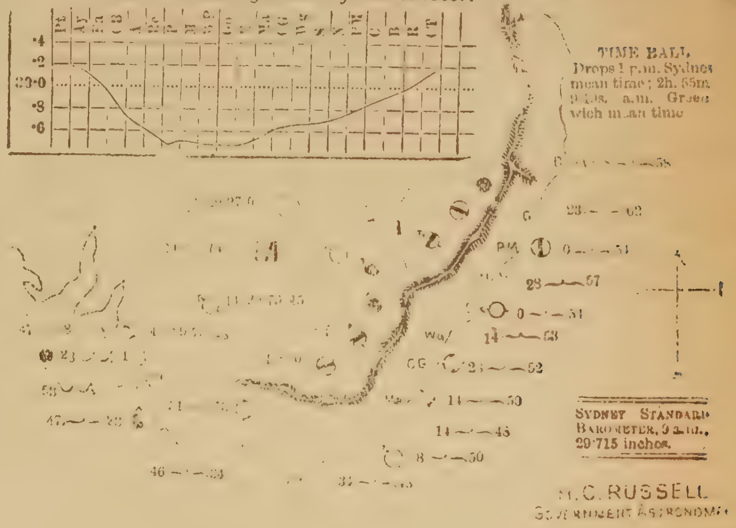
Average [illegible] years [illegible]

Total Rainfall [illegible]

Barometers corrected [illegible] mean sea level.

[illegible] Cloudy, [illegible] wind E. [illegible] Rain, [illegible] wind W. [illegible] If it is calm, the symbol [illegible] the arrow. [illegible] Smooth sea. [illegible] Heavy sea. [illegible] Very heavy sea.

Curve showing state of Barometer.



NOTES EXPLANATORY OF MAP.

In the list of stations the column headed W. gives the state of the weather at 9 a.m., [illegible] b, [illegible] r, rain, s, snow; t, thunder [illegible] The next column [illegible] maximum temperature for previous 24 hours, [illegible] the corresponding minimum temperature [illegible] the rain for the previous 24 hours. The symbols used [illegible] are explained on the margin. At each coast station the wind symbol is placed [illegible] pointing to the direction from which the wind is coming. A clear circle with it means fine weather; a circle with bar, cloudy weather, [illegible] Next to the symbol are placed figures denoting the [illegible] the wind [illegible] per hour, next, a symbol showing the state of the sea, and, lastly, figures denoting the shade temperature at 9 a.m. The barometer curve shows the state of barometers round the coast from Perth to Cooktown: Pt, Perth, [illegible] Eu, Eucla, CL, Cape Leeuwin [illegible], A, Adelaide; Ro, Robe; P, Portland, M, Melbourne; W P, Wilson's Promontory; Go, Gabo, E, Eden, Ma, Moruya, C J, Jervis Bay, Wg, Wollongong; S, Sydney; N, Newcastle; P M, Port Macquarie; C, Clarence River; B, Brisbane; R, Rockhampton; Ct, Cooktown. Inland the state of barometer is given in figures at Albury, Deniliquin, Wentworth, Menindie, Bourke, and Alice Springs. The barometer curve enables one at a glance to trace the depressions, beginning with Western Australia, and passing along eastwards; northerly winds preceding [illegible] and southerly following.

The rainfall on Sundays or holidays, when this map is not published, is in all cases included in the quantities shown by the next following map.

9 A.M. OBSERVATIONS.

Western Australia. A Esperance Bay, cloudy and gloomy, with light N. W. winds and moderate sea, barometer 30·17, temperature 48, and rainfall 0·20 inche.

South Australia. Generally overcast and showery south of Beltana, with fallen barometers, strong N. W. to S. W. winds, and rough sea along the coast. During the previous 24 hours rain fell south of Hawker; over an inch fell on the Mount Lofty Ranges; from 0·10 to 0·57 inches inland, and from 0·50 to 0·75 inches on the coast. No reports from Northern territory. Extremes of barometers and temperature: Eucla, 30·09; Cape Northumberland, 29·47 and 55°; Adelaide, 47°.

Victoria. —Generally more or less cloudy and unsettled, with showers in S. W. parts, fresh to strong northerly winds, fallen barometers, and moderate sea. Rainfall: Portland, 0·52; Ballarat, 0·51; Echuca, 0·43; Horsham, 0·27; and other stations smaller quantities. Extremes of barometers and temperature: Echuca, 29·67; Portland and Lakes' Entrance, 29·18; Horsham, 54; and Omeo, 43°.

Tasmania. —At Low Heads, showery, with light S. W. winds and smooth sea. Barometer 29·45, and temperature 48°.

New Zealand. —No telegrams.

New South Wales. —Fine in west parts and in central coast districts; showery and overcast along the ranges, and in central parts of the colony; snowing at Kiandra, and five inches lying on the ground. Winds: Light to fresh N.W. to W. generally, but rather strong between Sydney and Manning River. The sea smooth. During the previous 48 hours rains fell generally over the colony, except on the coast. The heaviest falls occurred on the ranges. Extra stations.—Rainfall: [illegible] 0·10; Gabo, 0·07; Katoomba, max. 48°, min. 37°, and rain 0·07 inch. Extremes of barometers and temperature: Walgett, 29·97; Eden, 29·51; Lismore, 64°; and Kiandra, 33°. For further particulars see map.

Queensland. —Fine in north parts, with light S.E. winds; cloudy and threatening in south, with westerly winds. Barometers have fallen, and the sea continues smooth. Light showers reported from S.W. parts. Extremes of barometers and temperature: Cooktown, 30·13; Brisbane, 29·92; Normanton, 76°; and Roma, 36°.

3 P. M. OBSERVATIONS.

New South Wales.—Menindie, S.W., 28, cloudy and dull, temperature 58°; Wentworth, N.W., 28, overcast and dull, temperature 19; Deniliquin, calm, cloudy, temperature 59°; Moruya, W.N.W., 14, gloomy, smooth sea, temperature 58°; Cape St. George, W., 42, fine but cloudy, smooth sea, temperature 61°; Sydney, W., 28, fine and squally, smooth sea, temperature 59°; Newcastle, W., 14, fine, smooth sea, temperature 63°; Port Macquarie, W., 42, fine, smooth sea, temperature 69°; Clarence River, N.W., 42, dull, smooth sea, temperature 65°; Walgett, N.W., 14, cloudy, temperature 59°; Dubbo, N., 11, raining, temperature 69°; Goulburn, N.W., 11, showery, temperature 56°.

Queensland.—Normanton, fine, temperature 89°; Townsville, S.E., 13, fine and clear, very smooth sea, temperature 73°; Mackay, S.W., fine; Rockhampton, W.N.W., 13, fine, temperature 73°; Cape Moreton, N.N.W., 18, cloudy, temperature 64°; Brisbane, W., 8, overcast, temperature 65°.

HEIGHT OF RIVERS ABOVE SUMMER LEVEL.

Macintyre: At Mungindi, low. Barwon: At Mogil Mogil, low; Walgett, low. Namoi: At Walgett, low. Culgoa: At Goodooga, low. Darling: At Brewarrina, low; Bourke, low; Louth, 3 feet 5 inches; Tilpa, 3 feet 10 inches; Wilcannia, 7 feet; Menindie, 20 feet 7 inches; Pooncarie, 22 feet 4 inches; Wentworth, 12 feet 4 inches. Murrumbidgee: At Gundagai, 5 feet 10 inches; Wagga, 6 feet 9 inches; Hay, 8 feet 11 inches; Balranald, 10 feet 3 inches. Murray: At Albury, 4 feet; Euston, 5 feet 11 inches.

ASTRONOMICAL MEMORANDA FOR JUNE 23.

Sun rises at 7.7, sets at 4.57; Moon rises at 8.27 a.m.; sets at 6.37 p.m.; Mercury, 8.48 a.m., 6.41 p.m.; Venus, 9.59 a.m., 8.21 p.m.; Mars, 6.2 a.m., 3.53 p.m.; Jupiter, 1.7 p.m., 3.1 a.m.; Saturn, 8.38 a.m., 6.38 p.m. Full moon, 6th; new moon, 21st.

High water at Fort Denison: 9.28 a.m., 9.49 p.m.

H. A. LENEHAN,
Acting Government Astronomer.

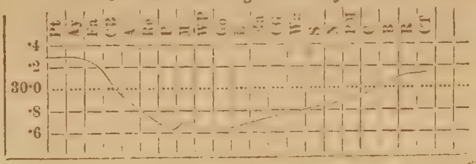
Albury	u	[illegible]	[illegible]	[illegible]
Armidale	b	50	39	0·06
Barraba	c	63	36	0·06
Bathurst	c	51	38	0·22
Bendem'r	u	49	41	0·0[illegible]
Bodalla ..	g	59	32	0
Bourke	b	64	[illegible]	0
Brewarrina	c	—	3[illegible]	0
C'md'n H.	b	64	[illegible]	0
C. St. Geo.	b	69	[illegible]	0
Carcoar ..	r	51	36	·70
Casino ..	b	70	4[illegible]	0
Cassilis ..	o	55	53	0
Clarence .	b	66	43	0
C'nd'b'lin	u	63	45	0·02
Cooma ..	c	5[illegible]	3[illegible]	0
Coonab'n.	b	58	4[illegible]	0
Cowra ..	r	54	45	0·22
Cudg'llico	u	6[illegible]	39	[illegible]
Deniliq'n.	g	68	39	0·23
Dubbo ..	b	[illegible]	[illegible]	0·01
Eden	b	56	41	0
Euston ..	c	5[illegible]	[illegible]	0·07
Forbes ..	u	—	[illegible]	[illegible]
Glen Inn's	n	[illegible]	4[illegible]	[illegible]
Goulburn	u	51	38	0·06
Grafton ..	b	71	52	0
Gulgong .	u	55	33	0
Gunned'h	b	59	43	0
Hay	c	55	35	0
Inverell..	c	56	31	0
Kiandra..	s	40	28	0·57
Lismore	b	69	48	0
Maitland.	b	62	49	0
M'n'ng H.	b	60	44	0
Marsdens.	b	55	46	0·11
Menindie.	b	59	46	0
Molong ..	g	43	35	0·20
M'r'ng'r'll	c	56	45	0·11
Moree ..	b	63	38	0
Moruya ..	b	62	48	0
Moss Vale	c	52	41	0
Mt. Hope	g	61	45	0
M. Vict'ria	u	46	32	0·09
Mudgee ..	u	60	38	0·05
M'rr'mb'h	c	52	43	0·15
M'r'r'ndi	g	54	43	0·05
Mus'lbr'k	u	62	43	0·04
Narrabri	g	65	44	0
Newcastle	b	65	47	0
Orange ..	r	47	39	0·93
Picton ..	b	57	38	0
P. M'q'rie	b	67	39	0
P. St'ph'n	b	60	46	0
Q'nbeyan	r	57	34	0·15
Quirindi	g	59	44	0
Singleton	b	59	51	0
SYDNEY ..	b	61	49	0
Taralga ..	b	56	35	0·43
Taree	b	67	50	0
T'nt'rfield	b	50	36	0·10
Wagga ..	r	53	39	0·25
Walcha ..	b	48	34	0·17
Walgett	b	59	50	0
Warrah ..	u	58	—	0·02
W'ntw'rth	b	65	42	0·02
W'll'ng'ng	b	65	51	0
Young ..	r	55	46	0·38

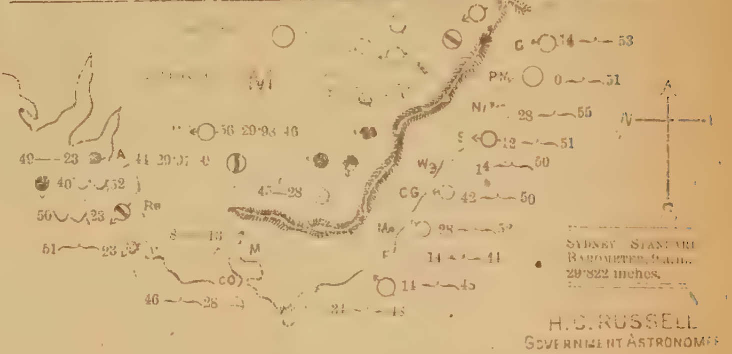
LATITUDE 33 51 [illegible] LONGITUDE 10h. 4m. 50·8s. E.
MAGNETIC VARIATION [illegible] E.

Average Annual Rainfall for 28 years .... 49·489
Average for 29 years from Jan. 1 to May 31 1887 .. 25·483
Total Rainfall from Jan. 1, to June 23 1887 ...... 34·084
Barometers corrected to 32° Fah. and Mean Sea Level

wind S., [illegible] wind E.
[illegible] Part
wind S. [illegible] wind [illegible]
If it is CALM, the symbol used without the arrow
Smooth sea.
Heavy sea.
Very heavy sea.

Curve showing state of Barometer.





TIME BALL.
Drops 1 p.m. Sydney [illegible] time; 2h. 55m [illegible] a.m. Green[wich] [illegible]

SYDNEY STANDARD BAROMETER, 9 a.m.
29·822 inches.

H. C. RUSSELL
GOVERNMENT ASTRONOMER

NOTES EXPLANATORY OF MAP.

In the list of stations the column headed W. [illegible] gives the state of the weather at 9 a.m., b [illegible] [illegible] c, detached clouds; d, drizzling rain; f, fog; g, gloomy; h, hazy; [illegible] [illegible] showers; r, rain; s, snow; t, thunder; u, [illegible] [illegible] column M'x gives the maximum temperature for previous 24 hours. M'n the corresponding minimum temperature; R'n, the rain for the previous 24 hours. The symbols used in the map are explained on the margin. At each coast station the wind symbol is placed like a vane pointing to the direction from which the wind is coming. A clear circle with it means fine weather; a circle with bar, cloudy weather; and a black spot, raining. Next to this symbol are placed figures denoting the number of miles the wind is moving per hour; next, a symbol showing the state of the sea; and, lastly, figures denoting the shade temperature at 9 a.m. The barometer curve shows the state of barometers round the coast from Perth to Cooktown:—Pt, Perth; Ay, Albany; Ea, Eucla; CB, Cape Borda; A, Adelaide; Re, Robe; P, Portland, M, Melbourne; W P, Wilson's Promontory; Go, Gabo; E, Eden; Ma, Moruya; CG Jervis Bay; Wg, Wollongong; S, Sydney; N, Newcastle; PM, Port Macquarie; C, Clarence River; B, Brisbane; R, Rockhampton; Ck, Cooktown. Inland the state of barometer is given in figures at Albury, Tamworth, Wentworth, Menindie, Bourke, and Alice Springs. The barometer curve enables one at a glance to trace the depressions, beginning with Western Australia, and passing along eastwards; northerly winds preceding them, and southerly following.

The rainfall on Sundays or holidays, when this map is not published, is in all cases included in the quantities shown by the next following map.

9 A.M. OBSERVATIONS.

Western Australia.—Generally fine, with clouds at scattered places, and light rain at Cossack, light N. to E. winds, risen barometers, and smooth sea. Rainfall: 0·04 inch at Perth, 0·02 inch at Esperance Bay, and 0·01 inch at Eucla. Extremes of barometers and temperature: Esperance Bay, 30·29 and 40°; Ashburton, 30·12; and Carnarvon, 74°.

South Australia.—Generally overcast and gloomy south of Quorn, with passing showers of light rain at places, clouds broken in south parts, fresh to strong N.W. to S.W. winds, rising barometers, and rough sea. During the previous 24 hours rain fell south of Quorn, from 0·50 to 1·80 inches over Mount Lofty Ranges, over the rest of the colony from 0·25 to 0·75 inches. Extremes of barometers and temperature: Eucla, 30·27 and 52°; Cape Northumberland, 29·62; and Adelaide, 49°. No reports from Northern Territory.

Victoria.—Generally overcast and gloomy, with light to fresh N. to W. winds. Slightly risen barometers and moderate but rising sea. Squally and misty in the Straits. Rainfall: Portland, 1·03; Hamilton, 0·65. Still raining in S.W. parts. Extremes of barometers and temperature: Echuca, 29·87; Lakes' Entrance, 29·60; Horsham, 55°; and Ballarat, 41°.

Tasmania.—Generally unsettled, with light rain at Hobart; light southerly winds and calms, fallen barometers and moderate sea. Rainfall: 0·04 inch at Hobart. Extremes of barometers and temperature: Hobart, 29·65 and 43°; Circular Heads, 29·59 and 40°.

New Zealand.—Showery on the West Coast; fine to eastward, with N.W. winds and calms. Barometers: In north, 29·8; over the centre, 29·6; and in south, 29·5.

New South Wales.—Generally fine in N. and N.E. parts, and along the Darling; more or less cloudy and unsettled in south; raining in the districts between the Upper Lachlan and Murrumbidgee rivers; snowing at Kiandra, and about 1 foot snow lying on the ground. Winds: Generally fresh, and at places strong westerly. Sea smooth during the previous 24 hours. Light, partial rain fell along the ranges and on the Victorian border. Extra stations.—Hill End, 0·30 inch rain fallen; Gabo, 0·02 inch; Katoomba, max. 44°, min. 36°, and 0·01 inch rain. Extremes of barometers and temperature: Walgett, 30·11; Gabo, 29·62; Newcastle, 55°; and Kiandra, 31°. For further particulars see map.

Queensland.—Generally fine, with light S.E. winds in north, and westerly winds in south parts; rising barometers and smooth sea; no rain reported. Extremes of barometers and temperature: Roma, 30·18 and 47°; Brisbane, 30·03; and Cooktown, 69°.

3 P.M. OBSERVATIONS.

Victoria.—Portland, W.S.W., 8, cloudy and showery, slight sea, temperature 52°; Cape Otway, N.W., 23, light rain, dull, slight sea, temperature 50°; Melbourne, N., 13, overcast and gloomy, temperature 51°; Cape Schanck, W., 23, cloudy and misty and squally, moderate sea, temperature 56°; Wilson's Promontory, N.W., 34, overcast, like rain, moderate sea, temperature 50°; Lakes' Entrance, W., 8, fine, but cloudy, temperature 56°.

New South Wales.—Menindie, W., 42, cloudy and stormy, temperature 58°; Wentworth, N.W., 42, overcast and like rain, temperature 52°; Deniliquin, N.W., 14, cloudy and dull, temperature 58°; Eden, S.W., 14, fine, smooth sea, temperature 57°; Moruya, W.N.W., 14, fine, smooth sea, temperature 61°; Cape St. George, W., 42, fine, smooth sea, temperature 59°; Sydney, W.N.W., 24, fine, smooth sea, temperature 58°; Newcastle, W., 28, fine, smooth sea, temperature 60°; Port Macquarie, W.S.W., 42, fine and clear, smooth sea, temperature 61°; Clarence River, W., 14, fine, smooth sea, temperature 63°; Walgett, N.W., 14, cloudy and cold, temperature 60°; Dubbo, S., 14, fine, but cloudy, temperature 5[illegible]; Goulburn, W.N.W., 14, showery, temperature [illegible].

Queensland.—Normanton, S.[illegible], 1[illegible], fine and clear, temperature 88°; Townsville, S.E., 13, fine and clear, smooth sea, temperature 75°; Hughenden, N.E., fine, clear, and cool; B[illegible], fine and clear; Rockhampton, S.W., 18, fine and clear, temperature 54°; Roma, W., 13, fine, temperature 61°; Cape Moreton, W.S.W., 28, fine and clear, temperature 54°; Brisbane, N.W., 13, fine, temperature 65°.

HEIGHT OF RIVERS ABOVE SUMMER LEVEL.

Macintyre: At Mungindi, low. Barwon: At Mogil Mogil, low; Walgett, low. Namoi: At Walgett, low. Culgoa: At Goodooga, low. Darling: At Brewarrina, low; Bourke, low; Louth, 3 feet 4 inches; Tilpa, 3 feet 9 inches; Wilcannia, 7 feet; Menindie, 20 feet 3 inches; Pooncarie, 22 feet 9 inches; Wentworth, 12 feet 6 inches. Murrumbidgee: At Gundagai, 5 feet 8 inches; Wagga, 7 feet; Hay, 9 feet 2 inches; Balranald, 10 feet 8 inches. Murray: At Albury, 4 feet; Euston, 6 feet 2 inches.

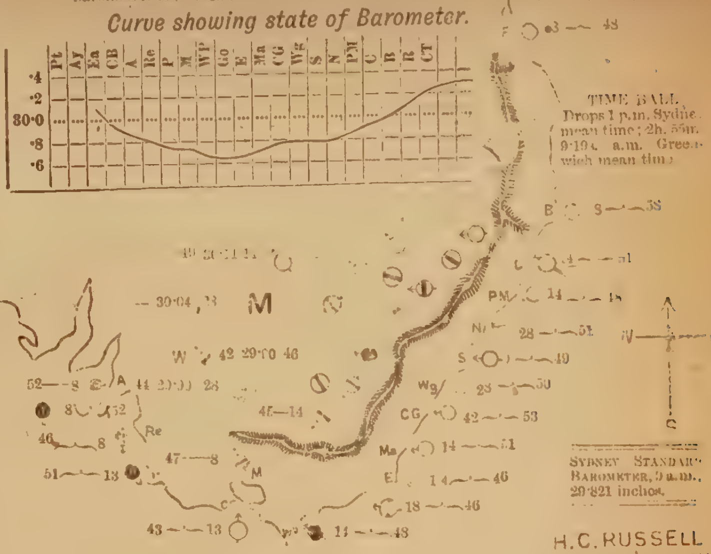
ASTRONOMICAL MEMORANDA FOR JUNE 24.

Sun rises at 7.7, sets at 4.57; Moon rises at 9.16 a.m.; sets at 7.38 p.m.; Mercury, 8.48 a.m., 6.43 p.m.; Venus, 9.58 a.m., 8.22 p.m.; Mars, 6.2 a.m., 3.52 p.m.; Jupiter, 1.3 p.m., 1.57 a.m.; Saturn, 8.35 a.m., 6.35 p.m. Full moon, 6th; new moon, 21st.

High water at Fort Denison: 10.10 a.m., 10.31 p.m.

H. A. LENEHAN,
Acting Government Astronomer.

Albury ..	g	49	45	0·13
Armidale	c	45	36	0·04
Balranald	g	68	35	0
Bathurst	c	45	36	0·13
Bendem'r	u	48	39	0·01
Bodalla ..	b	56	29	0
Bourke ..	b	64	35	0
Buncarri	r	—	42	0·02
C'md'n H.	b	64	41	0
C. St. Geo.	b	63	45	0
Carcoar ..	r	45	35	0·38
Casino ..	b	68	34	0
Cassilis ..	r	53	43	0·13
Clarence .	b	66	46	0
C'nd'b'lin	c	61	41	0·18
Cooma ..	n	55	25	0
Coonab'n.	n	55	33	0·04
Cowra ..	c	51	43	0·15
Cudg'llico	g	54	36	0·37
Deniliq'n.	u	66	39	0
Dubbo ..	b	55	35	0·11
Eden	b	57	42	0
Euston ..	r	57	34	0
Forbes ..	u	—	37	0·08
Glen Inn's	n	48	33	0·03
Goulburn	u	46	36	0·07



Grafton ..	b	67	46	0
Gulgong .	u	50	28	0·30
Gunned'h	b	58	42	0
Hay	c	57	35	0
Inverell ..	c	52	32	0
Kiandra ..	c	38	28	0
Lismore .	b	68	38	0
Maitland .	b	58	45	0
M'n'ng H.	b	61	44	0
Marsdens.	c	54	43	0·13
Menindie.	b	58	44	0
Molong ..	u	43	36	0
M'r'ng'r'll	c	54	41	0·24
Moree ..	b	64	36	0
Moruya ..	b	64	43	0
Moss Vale	b	48	38	0
Mt. Hope	n	60	38	0
M. Vict'ria	u	43	32	0·03
Mudgee ..	u	60	35	0·10
M'rr'mb'h	r	54	41	0·11
M'rr'r'ndi	g	55	41	0·22
Mus'lbr'k	u	64	43	0·01
Narrabri	b	63	39	0
Newcastle	b	61	44	0
Orange ..	r	43	34	0·55
Picton ..	n	54	34	0
P. M'q'rie	b	63	37	0
P. St'ph'n	b	59	43	0
Q'nbeyan	b	53	33	0·05
Quirindi	b	56	42	0·08
Singleton	b	57	48	0
SYDNEY ..	b	58	45	0
Taralga ..	r	55	32	0·14
Taree ...	b	65	46	0
T'nt'rfield	b	51	35	0
Wagga ..	u	51	37	0·16
Walcha ..	r	66	30	0·19
Walgett	b	57	41	0
Warrah ..	b	55	—	0·10
W'ntw'rth	u	59	41	0·01
W'll'ng'ng	b	61	53	0
Young ...	r	58	39	0·29

SYDNEY OBSERVATORY.

LATITUDE 33° 51' 41" S. LONGITUDE 10h. 4m. 50·81s. E.

MAGNETIC VARIATION, 9° 35' 37" E.

Average Annual Rainfall for 28 years .... 49·459
Average for 29 years from Jan. 1 to May 31 1887 .. 20·493
Total Rainfall from Jan. 1, to June 24 1887 ...... 34·084

Barometers corrected to 32° F. h. and Mean Sea Level

Curve showing state of Barometer.

Fine, wind N. Cloudy, wind E. Storm, wind S. Rain, wind W.
If it is CALM, the symbol used without the arrow
Smooth sea.
Heavy sea.
Very heavy sea.

TIME BALL.
Drops 1 p.m. Sydney mean time; 2h. 55m. 9·19s. a.m. Greenwich mean time.

SYDNEY STANDARD BAROMETER, 9 a.m., 29·821 inches.

H. C. RUSSELL
GOVERNMENT ASTRONOMER.

NOTES EXPLANATORY OF MAP.

In the list of stations the column headed W. r. gives the state of the weather at 9 a.m., b standing for blue sky; c, detached clouds; d, drizzling rain; f, fog; g, gloomy; h, hazy; m, misty; ... frosty; o, overcast; p, passing showers; r, rain; s, snow; t, thunder; u, threatening. The next column, M'x gives the maximum temperature for previous 24 hours. M'n the corresponding minimum temperature; R'n, the rain for the previous 24 hours. The symbols used in the map are explained on the margin. At each coast station the wind symbol is placed like a vane pointing to the direction from which the wind is coming. A clear circle with it means fine weather; a circle with bar, cloudy weather; and a black spot, raining. Next to this symbol are placed figures denoting the number of miles the wind is moving per hour; next, a symbol showing the state of the sea; and, lastly, figures denoting the shade temperature at 9 a.m.. The barometer curve shows the state of barometers round the coast from Perth to Cooktown: Pt, Perth; Ay, Albany; Ea, Eucla; CB, Cape Borda; A, Adelaide; Re, Robe; P, Portland; M, Melbourne; WP, Wilson's Promontory; Go, Gabo; E, Eden; Ma, Moruya; CG, Jervis Bay; Wg, Wollongong; S, Sydney; N, Newcastle; PM, Port Macquarie; C, Clarence River; B, Brisbane; R, Rockhampton; C., Cooktown. Inland the state of barometer is given by figures at Albury, Deniliquin, Wentworth, Menindie, Bourke, and Alice Springs. The barometer curve enables one at a glance to trace the depressions, beginning with Western Australia, and passing along eastwards; northerly winds preceding them, and southerly following.

The rainfall on Sundays or holidays, when this map is not published, is in all cases included in the quantities shown by the next following map.

9 A.M. OBSERVATIONS.

South Australia.—Fine, calm, cold, generally overcast and threatening rain S. of Port Augusta, N.W. to S.W. winds. Rain recorded S. of Port Augusta 0·20 to 1·12, at Echunga, Kapunda, 1·04, Hahndory 0·90, Bordertown 0·80, Curra 0·92, Mt. Barker 0·95. Extremes of barometers and temperature: Alice Springs, 30·40, Robe 29·98 and 46°, and Port Darwin 76°.

Victoria.—Cloudy and unsettled throughout the colony, with heavy rain to S. and S.W. Winds moderate from N.W. inland and from S.W. to S. on the coast. Rainfall: Robe 0·60, Portland 0·68, Hamilton 0·58. Fogs with light misty rain prevailing in Eastern parts. Extremes of barometers and temperpture: Robe 29·83, Gabo Island 29·65; Horsham 55°, Cape Otway 43°.

Tasmania.—Light rains have been falling with S.E. winds in north and south parts of is'and, while in central parts fine weather prevails with strong southerly winds. Hobart reports 0·34 inch of rain, Low Head 0·06. Extremes of barometers and temperatures: Hobart 29·83 and 46°, Low Head 29·68, Falmouth 47·8.

New Zealand.—Fine in extreme North with N.W. winds, cloudy and unsettled with S.E. winds near Straits. In extreme south parts, rain in reported with E. winds. Barometers: 29·8 in south, in central parts 29·5.

New South Wales.—Generally fine on coast and in extreme west part of colony, but cloudy and very unsettled immediately west of the range. Rain has fallen generally in the Western districts; but with the exception of very light showers at Gabo Island none has fallen on the coast, light to fresh W. to N.W. winds prevailing throughout; sea smooth during previous 24 hours. The heaviest rainfalls have been—0·55 inch, Orange; 0·38 inch, Carcoar; 0·37 inch, Lake Cudgellico. Extra stations: Hill End, 0·22 inch of rain; Katoomba, maximum, 51°; minimum, 36°; strong westerly winds, with light showers. Extremes of barometers and temperature: Walgett, 30·12; Eden, 29·64; Clarence, 51°; Cooma, 32°.

Queensland.—Generally fine, with moderate S.W. winds in N. and N.W. parts; westerly winds prevailing throughout the rest of colony. Risen barometers and smooth sea. Extremes of barometers and temperature: Cooktown, 30·26 and 71°; Bowen, 30·04; Roma, 45°.

3 P.M. OBSERVATIONS.

New South Wales.—Menindie, S.W., 42, overcast, cold and stormy, temperature 58°; Wentworth, W.S.W., 42, cloudy and dull, temperature 18°; Deniliquin, calm, dull, and threatening, temperature 59°; Eden, S.W., 14, fine, smooth sea, temperature 58°; Moruya, N.W., 14, fine, but cloudy, smooth sea, temperature 59°; Cape St. George, W., 42, fine, smooth sea, temperature 58°; Sydney, W., 16, fine, but cloudy, smooth sea, temperature 55°; Newcastle, W., 28, fine, smooth sea, temperature 60°; Port Macquarie, W., 42, fine and clear, smooth sea, temperature 60°; Clarence River, W., 14, fine, smooth sea, temperature 62°; Walgett, W.S.W., 42, fine, and cold, temperature 55°; Dubbo, S., 28, cloudy, temperature 54°; Goulburn, N.W., 14, dull, temperature 58°.

Queensland.—Normanton, S.E., 18, fine and clear, temperature 83°; Rockhampton, W., 8, fine and clear, temperature 63°.

HEIGHT OF RIVERS ABOVE SUMMER LEVEL.

Macintyre: At Mungindi, low. Barwon: At Mogil Mogil, low; Walgett, low. Namoi: At Walgett, 3 feet. Culgoa: At Goodooga, low. Darling: At Brewarrina, low; Bourke, low; Louth, 3 feet 3 inches; Tilpa, 3 feet 8 inches; Wilcannia, 7 feet; Menindie, 20 feet; Pooncarie, 22 feet 8 inches; Wentworth, 12 feet 9 inches. Murrumbidgee: At Gundagai, 12 feet 6 inches; Wagga, 11 feet 6 inches; Balranald, 10 feet 9 inches. Murray: At Albury, 6 feet 6 inches; Euston, 8 feet.

ASTRONOMICAL MEMORANDA FOR JUNE 25.

Sun rises at 7.7, sets at 4.58; Moon rises at 10.3 a.m.; sets at 8.41 p.m.; Mercury, 8.49 a.m., 6.46 p.m.; Venus, 9.57 a.m., 8.23 p.m.; Mars, 6.1 a.m., 3.50 p.m.; Jupiter, 12.59 p.m., 1.5 a.m.; Saturn, 8.31 a.m., 6.31 p.m. Full moon, 6th; new moon, 21st.

High water at Fort Denison: 10.52 a.m., 11.13 p.m.

H. A. LENEHAN,
Acting Government Astronomer.

Stations.	Wth.	Mx.	Mn.	Rn.
Albury ..	r	49	43	0·1[illegible]
Armidale	b	45	35	0·3[illegible]
Balranald	u	61	32	0
Bathurst	u	46	35	0·03
Bendem'r	g	45	39	[illegible]
Bodalla ..	b	62	29	0
Bourke ..	g	63	37	0
Buncarra	c	—	40	0·04
C'md'n H.	b	61	39	0
C. St. Geo.	b	60	43	0
Carcoar ..	g	45	35	0·16
Casino ..	b	65	33	0
Cassilis ..	r	50	41	0·10
Clarence .	b	65	46	0
C'nd'b'lin	u	61	37	0·05
Cooma ..	u	53	21	[illegible]
Coonab'n.	r	53	35	0·1
Cowra	c	56	42	[illegible]
Cudg'llico	u	56	41	0·19
Deniliq'n.	u	63	36	[illegible]
Dubbo ..	r	55	35	0·21
Eden	u	57	46	0
Euston ..	n	54	34	0·04
Forbes ..	b	—	39	0·07
Glen Inn's.	u	45	33	0·15
Goulburn .	g	45	33	0·02

EUCLA

Grafton ..	b	60	38	0
Gulgong .	u	49	28	0·10
Gunned'h	-	—	—	-
Hay ..	u	53	41	0·03
Inverell ..	c	53	32	0·21
Kiandra ..	g	40	26	0
Lismore .	b	65	37	0
Maitland .	b	56	43	0
M'n'ng H.	b	65	37	0
Marsdens.	c	52	43	0·05
Menindie.	u	58	46	0
Molong ..	u	43	40	0·11
M'r'ng'r'll	u	54	43	0·11
Moree ..	u	64	39	0
Moruya ..	b	63	36	0
Moss Vale	n	47	36	0
Mt. Hope	r	56	41	0

M. Vict'ria	c	40	29	0
Mudgee ..	u	55	32	0·10
M'rr'mb'h	c	52	39	0·03
M'rr'r'ndi	g	48	39	0·20
Mus'lbr'k	b	53	51	0
Narrabri	r	63	41	0·08
Newcastle	r	61	42	0
Orange ..	r	42	36	0·45
Picton ..	n	54	30	0
P. M'q'rie	b	61	36	0
P. St'ph'n.	b	57	41	0
Q'nbeyan	b	55	34	0
Quirindi	u	63	40	0·09
Singleton	b	55	45	0
SYDNEY ..	b	58	43	0
Taralga ..	c	51	34	0·04
Taree	b	65	38	0
T'nt'rfield	b	49	35	0·06
Wagga ..	u	50	36	0
Walcha ..	s	46	30	0·31
Walgett	r	58	43	0·02
Warrah ..	r	52	—	0·24
W'ntw'rth	b	57	42	0·17
W'll'ng'ng	b	59	53	0
Young ..	r	51	36	0·11

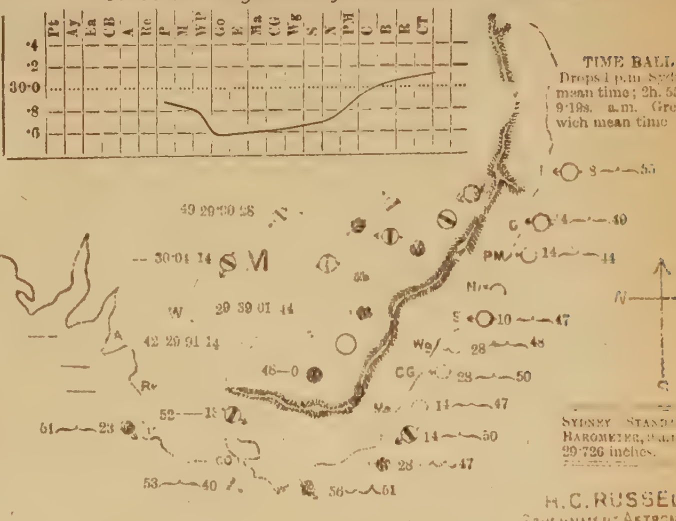
SYDNEY OBSERVATORY.

LATITUDE 33° 51' 41" S. LONGITUDE 10h. 4m. 50·8s. E.
MAGNETIC VARIATION, 9° 35' 57" E.

Average Annual Rainfall for 28 years ....49·430
Average for 28 years from Jan. 1 to May 31 1887 .. [illegible]
Total Rainfall from Jan. 1. to June 25 1887 ...... 34·085
Barometers corrected to 32° F. and Mean Sea Level

Fine, wind N. Cloudy, wind E. T. storm, wind S. Rain, wind W.
If it is CALM, the symbol used without the arrow
Smooth sea.
Heavy sea.
Very heavy sea.

Curve showing state of Barometer.



TIME BALL.
Drops 1 p.m. Sydney mean time; 2h. 55m. 9·19s. a.m. Greenwich mean time

SYDNEY STANDARD BAROMETER, [illegible] 29·726 inches.

H. C. RUSSELL
GOVERNMENT ASTRONOMER.

NOTES EXPLANATORY OF MAP.

In the list of stations the column headed Wth. gives the state of the weather at 9 a.m., b standing for blue sky; c, detached clouds; d, drizzling rain; f, fog; g, gloomy; h, hazy; m, misty; n, frosty; o, overcast; p, passing showers; r, rain; s, snow; t, thunder; u, threatening. The next columns, Mx. give the maximum temperature for previous 24 hours, Mn. the corresponding minimum temperature; Rn. the rain for the previous 24 hours. The symbols used on the map are explained on the margin. At each coast station the wind symbol is placed with vane pointing to the direction from which the wind is coming. A clear circle with it means fine weather; a circle with bar, cloudy weather; and a black spot, raining. Next to this symbol are placed figures denoting the number of miles the wind is moving per hour, next, a symbol showing the state of the sea; and, lastly, figures denoting the shade temperature at 9 a.m. The barometer curve shows the state of barometers round the coast from Perth to Cooktown:—Pt, Perth; Ay, Albany; Ea, Eucla; CB, Cape Borda; A, Adelaide; Re, Robe; P, Portland; M, Melbourne; WP, Wilson's Promontory; Go, Gabo; E, Eden; Ma, Moruya; CG Jervis Bay; Wg, Wollongong; S, Sydney; N, Newcastle; PM, Port Macquarie; C, Clarence River; B, Brisbane; R, Rockhampton; Ct, Cooktown. Inland the state of barometer is given in figures at Albury, Deniliquin, Wentworth, Menindie, Bourke, and Alice Springs. The barometer curve enables one at a glance to trace the depressions, beginning with Western Australia, and passing along eastwards; northerly winds preceding them, and southerly following.

The rainfall on Sundays or holidays, when this map is not published, is in all cases included in the quantities shown by the next following map.

9 A.M. OBSERVATIONS.

Western Australia.—In south parts cloudy and unsettled, with light rain falling at Esperance Bay; light N.W. to N.E. winds, fallen barometers, and smooth sea. Rainfall: Esperance Bay, 0·50; and Perth, 0·56 inch. Extremes of barometers and temperature: Esperance, 30·13 and 47°; Albany, 30·03; and Perth, 49°. No reports from N.W. parts.

South Australia.—Generally more or less cloudy but clearing, south of Quorn; at places raining lightly. Light to fresh S. to S.W. winds, risen barometers, and moderate to rough sea. Rain fell south of Quorn; from 0·10 to 0·50 inch north of Adelaide, heavier in south. Blab Meadows, 0·54; Milang, 0·70; Victor Harbour, 0·68; Mount Gambier, 0·67; and Robe, 0·87 inches. Extremes of barometers and temperature: Eucla, 30·25 and 50°; Cape Northumberland, 29·98; and Adelaide, 52°. No reports from Northern Territory.

Victoria.—Generally overcast and showery, with fresh S.E. to N.E. winds, rising barometers, and moderate to rough sea; snowing at Omeo, squally in the Straits. Rainfall: Wilson's Promontory, 0·82. Lakes Entrance, 0·68; Ballarat, 0·52; Cape Schanck, 0·39; and Portland, 0·23 inches. Extremes of barometers and temperatures: Cape Otway, 29·98; Lakes Entrance, 29·68; Horsham, 56°; and Omeo, 35°.

Tasmania.—Cloudy on the north coast, showery at Hobart, with fresh S. to S.E. winds, rising barometers, and moderate sea. Light rain fell generally, heaviest (0·07) at Hobart. Extremes of barometers and temperatures: Hobart, 30·05; Circular Heads, 29·96 and 44°; Low Heads, 47°.

New Zealand.—Generally fine, with southerly winds, and barometers at 29·8. Heavy rains fell during the night.

New South Wales.—Along the coast fine and clear, except in extreme south, where it is cloudy and showery; over the remainder of the colony overcast and gloomy, with showers of light rain in the central division, and snowing at Walcha. Snow fell during the night at Armidale, Glen Innes, and Mount Victoria. Rain fell in the central division generally, and along the Victorian border. Winds, light to fresh westerly. Sea smooth to moderate, but rising at Newcastle, and rather rough off Gabo Island. Sydney rainfall measured at 9 a.m. on Sunday, 26th, 0·170 inch, ditto at 7.30 p.m. on Sunday, 26th, 0·700 inch, making 34·955 from January 1st. Extra stations: Katoomba, max. 41°, min. 32°, and fine. Rainfall: Gabo 0·08, Wilcannia 0·09, Hill End 6·23 inches. Extremes of barometers and temperature: Menindie 30·04, Gabo Island 39·57, Newcastle 51°, and Kiandra 30°.

Queensland.—Generally fine and cold, with light S.E. winds in north, and westerly winds in south; risen barometers, and smooth to moderate sea. No rain reported. Extremes of barometers and temperature: Normanton 30·21, Brisbane 29·94, Cooktown 73°, and Roma 49°.

3 P.M. OBSERVATIONS.

Victoria.—Portland, E.S.E., 28, fine but cloudy, slight sea, temperature 56°; Cape Otway, S.S.E., 33, fine but cloudy, moderate sea, temperature 53°; Wilson's Promontory, S.E., 18, overcast and squally, high sea, temperature 50°.

New South Wales.—Menindie, S.W., fine but cloudy and cold, temperature 58°; Wentworth, S.W., 14, fine, temperature 51°; Deniliquin, calm, dull, temperature 59°; Eden, S.W., 14, raining, heavy east sea, temperature 51°; Moruya, S.W., 28, cloudy and gloomy, rough sea, temperature 53°; Cape St. George, W., 42, fine, smooth sea, temperature 58°; Sydney, W.N.W., 28, fine, smooth sea; Newcastle, W., 28, fine, smooth sea, temperature 57°; Port Macquarie, calm, fine, smooth sea, temperature 62°; Clarence River, N.W., 14, fine, smooth sea, temperature 61°; Walgett, S.W., showery, temperature 56°; Dubbo, S., 28, fine but cloudy, temperature 55°; Goulburn, N.W., dull, temperature 56°.

Queensland. Thargomindah, N.W., fine; Cooktown, S.E., 15, fine and clear, temperature 74°; Normanton, S.F., 13, fine and clear, temperature 78°; Townsville, S.E., 18, fine, smooth sea, temperature 69°; Mackay, S.E., 23, fine, Blackall, N.W., fine and cool; Rockhampton, W., 18, fine and clear, temperature 63°; Roma, W.S.W., 18, raining and cool, temperature 56°; Cape Moreton, S.W., 18, fine, temperature 61°; Boulia, S.S.W., 28, fine.

HEIGHT OF RIVERS ABOVE SUMMER LEVEL.

Macintyre: At Mungindi, low. Barwon: At Mogil Mogil, low; Walgett, low. Namoi: At Walgett, 4 feet 6 inches. Culgoa: At Goodooga, low. Darling: At Brewarrina, low; Bourke, low; Louth, 3 feet 2 inches; Tilpa, 3 feet 7 inches; Wilcannia, 7 feet; Menindie, 10 feet 9 inches; Pooncarie, 22 feet 9 inches; Wentworth, 13 feet 6 inches. Murrumbidgee: At Gundagai, 12 feet 6 inches; Wagga, 16 feet; Hay, 10 feet; Balranald, 10 feet 9 inches. Murray: At Albury, 7 feet 9 inches; Euston, 9 feet.

ASTRONOMICAL MEMORANDA FOR JUNE 27.

Sun rises at 7.7, sets at 4.58; Moon rises at 11.27 a.m.; sets at 10.51 p.m.; Mercury, 8.50 a.m., 6.51 p.m.; Venus, 9.55 a.m., 8.25 p.m. Mars, 5.50 a.m., 3.48 p.m.; Jupiter, 12.51 p.m., 1.45 a.m.; Saturn, 8.21 a.m., 6.21 p.m. Full moon, 6th; new moon, 21st.

High water at Fort Denison: —— a.m., 12.20 p.m.

H. A. LENEHAN,
Acting Government Astronomer.

Station	W.	Max.	Min.	Rain
Albury	n	56	34	0·11
Armidale	b	50	41	0·11
Balranald	b	65	30	0
Bathurst	f	51	29	0·08
Bendem'r	b	47	30	0·62
Bodalla	b	60	40	1·35
Bourke	b	62	31	0
Buncarra	b	—	40	0·10
C'nd'n H.	b	62	42	0·50
C. St. Geo.	r	64	48	0·22
Carcoar	n	45	31	0·35
Casino	b	64	36	0
Cassilis	b	52	32	0·14
Clarence	b	64	47	0
C'nd'b'lin	n	62	32	0·10
Cooma	c	50	34	0·29
Coonab'n.	n	55	27	0·02
Cowra	n	57	33	0·15
Cudg'llico.	b	63	34	0
Deniliq'n.	b	67	32	0
Dubbo	b	58	32	0·03
Eden	-	—	—	-
Euston	b	67	30	0
Forbes	-	-	40	0
Glen Inn's	n	38	30	0·22
Goulburn	g	47	27	0·71

13—57 EUCLA

Station	W.	Max.	Min.	Rain
Grafton	n	59	37	0
Gulgong	b	55	33	0
Gunned'h	b	59	42	0
Hay	n	61	35	0
Inverell	b	49	36	0
Kiandra	n	41	23	0
Lismore	b	64	44	0
Maitland	b	59	46	0·20
M'n'ng H.	b	60	40	0·15
Marsdens.	n	57	38	0·01
Menindie.	n	—	36	0
Molong	b	42	28	0
M'r'ng'r'll	n	58	33	0
Moree	b	51	32	0
Moruya	-	—	—	-
Moss Vale	b	44	39	1·32
Mt. Hope	b	61	40	0·40

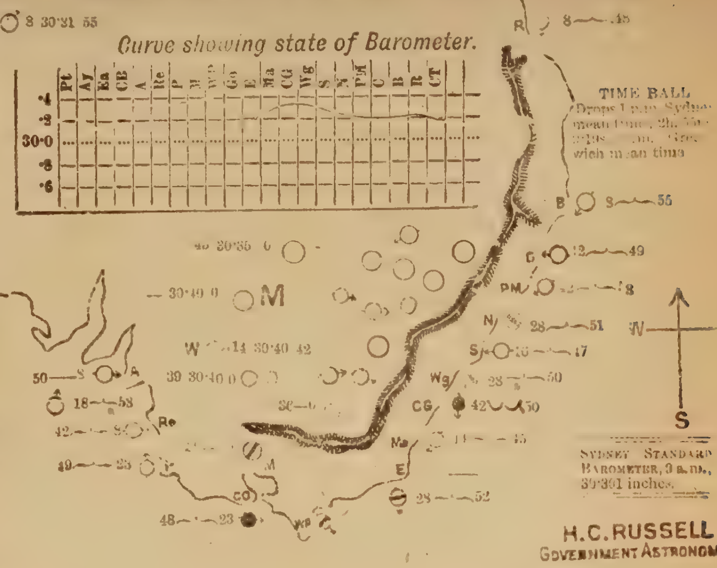
SYDNEY OBSERVATORY.

LATITUDE 33° 51′ 41″ S. LONGITUDE 10h. 4m. 50·51s. E.

MAGNETIC VARIATION, 9° 35′ 37″ E.

Average Annual Rainfall for 28 years..........49·489
Average for 29 years from Jan. 1 to May 31 1887 .. 25·493
Total Rainfall from Jan. 1 to June 27 1887 .... 34·057

Barometers corrected to 32° Fah. and Mean Sea Level



wind N. ... wind S. T. storm, wind S. ... Rain wind W.
If it is CALM, the symbol used without the arrow
Smooth sea.
Heavy sea.
Very heavy sea.

SYDNEY STANDARD BAROMETER, 9 a.m., 30·301 inches.

H. C. RUSSELL
GOVERNMENT ASTRONOMER

Station	W.	Max.	Min.	Rain
M. Vict'ria	g	45	32	0·25
Mudgee	n	60	25	0·05
M'rr'mb'h	b	57	31	0·15
M'rr'r'ndi	g	48	40	0·22
Mus'lbr'k	g	58	40	0·15
Narrabri	b	64	37	0·12
Newcastle	c	58	47	0·18
Orange	b	49	32	0
Picton	n	55	39	0
P. M'q'rie	b	61	43	0·03
P. St'ph'n	r	51	43	1·30
Q'nbeyan	n	52	30	0·15
Quirindi	b	54	41	0·18
Singleton	b	56	47	0·09
SYDNEY	b	53	45	0·87
Taralga	n	63	38	0·58
Taree	g	63	49	0·12
T'nt'rfield	f	47	33	0·16
Wagga	b	55	26	0·08
Walcha	c	42	37	0·47
Walgett	b	57	41	0
Warrah	c	52	—	0·38
W'ntw'rth	b	58	38	0
W'll'ng'ng	c	58	54	0·49
Young	n	64	29	0·10

NOTES EXPLANATORY OF MAP.

In the list of stations the column headed W. gives the state of the weather at 9 a.m., b standing for blue sky; c, detached clouds; d, drizzling rain; f, fog; g, gloomy; h, hazy; m, misty; n, frosty; o, overcast; p, passing showers; r, rain; s, snow; t, thunder; u, threatening. The next column ... gives the maximum temperature for previous 24 hours. Then the corresponding minimum temperature; then the rain for the previous 24 hours. The symbols used in the map are explained on the margin. At each coast station the wind symbol is placed like a vane pointing to the direction from which the wind is coming. A clear circle with it means fine weather; a circle with bar, cloudy weather; and a black spot, raining. Next to this symbol are placed figures denoting the number of miles the wind is moving per hour; next, a symbol showing the state of the sea; and, lastly, figures denoting the shade temperature at 9 a.m. The barometer curve shows the state of barometers round the coast from Perth to Cooktown: Pt, Perth; Ay, Albany; Ea, Eucla; CB, Cape Borda; A, Adelaide; Re, Robe; P, Portland; M, Melbourne; W, Wilson's Promontory; Ga, Gabo; E, Eden; Ma, Moruya; CG Jervis Bay; Wg, Wollongong; S, Sydney; N, Newcastle; PM, Port Macquarie; C, Clarence River; B, Brisbane; R, Rockhampton; Ct, Cooktown. Inland the state of barometer is given in figures at Albury, Deniliquin, Wentworth, Menindie, Bourke, and Alice Springs. The barometer curve enables one at a glance to trace the depressions, beginning with Western Australia, and passing along eastwards; northerly winds preceding them, and southerly following.

The rainfall on Sundays or holidays, when this map is not published, is in all cases included in the quantities shown by the next following map.

9 A.M. OBSERVATIONS.

Western Australia.—No telegrams.

South Australia.—Generally fine, with scattered clouds; overcast and frosty at places. Light S.E. to N.E. winds and calms, risen barometers, and smooth to moderate sea. Light rain, generally from 0·02 to 0·07 inch, recorded south of Port Augusta, but partial. In Northern Territory fine and cold, with light S.E. winds. Extremes of barometers and temperature:—Farina, 30·39; Eucla, 30·06; Port Darwin, 70°; and Robe, 42°.

Victoria.—Generally more or less cloudy and unsettled, with much fog and frost, and at places showers, light N.E. to S.E. winds, risen barometers, and moderate sea. Rainfall: Omeo, 1·34; Lakes' Entrance, 0·44; Wilson's Promontory, 0·25; and Ballarat, 0·19 inches. Extremes of barometers and temperature: Echuca, 30·43; Lakes' Entrance, 30·31; Horsham, 53°; and Hamilton, 39°.

Tasmania.—Generally fine, with light southerly winds and calms, risen barometers, and moderate to rough sea. Extremes of barometers and temperature: Southport, 30·43; Falmouth, 30·37 and 47°; Circular Heads, 43°.

New Zealand.—Calm and gloomy in extreme north; showery from S.E., and 0·87 inch fallen at Wellington; snowing, with south winds, in extreme south parts. Barometers: In north, 29·5; over the centre, 29·6; and in south, 29·6.

New South Wales.—More or less cloudy on and near the coast, with showery weather at Cape St. George and Port Stephen; winds light to fresh, and at places strong S. to W. and the sea moderate, but rough at Cape St. George and Manning Heads; west of the dividing ranges, fine, clear, and cold weather prevails, with light east winds and calms; on the ranges frosty and at places foggy. During the previous 48 hours rain fell in the eastern and central divisions generally, heaviest on and near the coast. Extra Stations.—Rainfall: Bega, 3·10 inch in 14 hours; Gabo Island, 0·23 inch; Hill End, 0·12 inch; Katoomba, maximum 51°, minimum 38°, and cloudy. Extremes of barometers and temperature: In S.W. parts, 30·40; Gabo Island, 30·19; Coonabarabran, 32°; and Bathurst 32°. For further particulars see map.

Queensland.—Generally fine and cold, with light to fresh south-easterly winds, risen barometers, and smooth to moderate sea, but rough off Cooktown. No report of rain fallen. Extremes of barometers and temperature: Roma, 30·26 and 42°; Cooktown, 30·16; and Normanton 61°.

3 P.M. OBSERVATIONS.

Victoria.—Portland, N.E., 8, fine, smooth sea, temperature 53°; Cape Otway, E.S.E., 13, cloudy and gloomy, smooth sea, temperature 52°, Melbourne, S.W., 8, hazy, temperature 51°, Cape Schanck, E., 8, fine but cloudy, smooth sea, temperature 5·°; Wilson's Promontory, E.S.E., 15, overcast and threatening, moderate sea, temperature 51°; Lakes' Entrance, W., 8, showery, temperature 54°.

New South Wales.—Menindie, S.W., 14, fine, temperature 55°; Wentworth, S.E., 14, fine, temperature 51°; Deniliquin, calm, fine, temperature 59°; Eden, S.W., 25, showery, light east sea, temperature 57°; Moruya, S., 28, showery, moderate sea, temperature 59°; Cape St. George, S., 42, cloudy, rough sea, temperature 59°; Sydney, S., 19, cloudy and unsettled, heavy sea, temperature 55°; Newcastle, S.W., 28, dull, moderate sea, temperature 59°; Port Macquarie, S.W., 14, fine, but cloudy, moderate sea, temperature 62°; Clarence River, S., 42, fine, smooth sea, temperature 63°; Walgett, calm, fine, temperature 65°; Dubbo, calm, fine, temperature 59°; Goulburn, S.E., 14, dull, temperature 57°.

Queensland.—Normanton, S.E., fine, temperature 88°; Townsville, S.E., 13, fine and clear, smooth sea, temperature 65°; Mackay, E., 23, fine; Burketown, S.E., 8, fine and clear; Rockhampton, E.S.E., 8, fine and clear, temperature 62°; Roma, S., 9, fine and clear, temperature 7·°; Cape Moreton, S.S.E., 28, fine but cloudy, temperature 62°; Brisbane, S., 8, cloudy, temperature 65°; Boulia, E., 18, fine and clear.

HEIGHT OF RIVERS ABOVE SUMMER LEVEL.

Macintyre: At Mungindi, low. Barwon: At Mogil Mog'l, low; Walgett, low. Namoi: At Walgett, 8 feet. Culgoa: At Goodooga, low. Darling: At Brewarrina, low; Bourke, low; Louth, 3 feet; Menindie, 19 feet 3 inches; Pooncarie, 22 feet 7 inches; Wentworth, 13 feet 5 inches. Murrumbidgee: At Gundagai, 11 feet; Wagga, 16 feet 6 inches; Hay, 10 feet 6 inches; Balranald, 11 feet. Murray: At Albury, 8 feet 3 inches; Euston, 10 feet.

ASTRONOMICAL MEMORANDA FOR JUNE 28.

Sun rises at 7.7, sets at 4.59; Moon rises at 12.5 p.m.; sets at 11.55 p.m.; Mercury, 8.50 a.m., 6.54 p.m.; Venus, 9.55 a.m., 8.27 p.m.; Mars, 5.59 a.m., 3.47 p.m.; Jupiter, 12.17 p.m., 1.41 a.m.; Saturn, 8.21 a.m., 6.21 p.m. Full moon, 6th; new moon, 21st.

High water at Fort Denison: 12.23 a.m., 1.9 p.m.

H. A. LENEHAN,
Acting Government Astronomer.

Albury ..	n	[illegible]	54	0
Armidale	n	39	29	0
Baranald	b	78	34	0
Bathurst	r	60	29	0
Bendem'r	n	52	26	0
Bodalla ..	g	59	37	0
Bourke	c	67	31	0
Buncarra	b	—	34	0
C'md'n H.	b	66	52	0
C. St. Geo.	r	58	48	0·56
Carcoar ..	n	42	30	0
Casino ..	b	68	34	0
Cassilis ..	o	51	34	0
Clarence .	b	66	47	0
C'nd'b'lin	n	61	32	0
Cooma ..	c	51	37	0
Coonab'n.	n	59	24	0
Cowra	n	56	32	0
Cudg'llico	b	59	32	0
Deniliq'n.	b	65	31	0
Dubbo ..	b	60	29	0
Eden	b	56	45	0
Euston ..	b	76	35	0
Forbes ..	b	—	41	0
Glen Inn's	n	55	30	0
Goulburn	f	46	31	0
Grafton ..	b	68	39	0
Gulgong .	b	54	26	0
Gunned'h	b	57	39	0
Hay . ..	b	63	34	0
Inverell ..	n	57	30	0
Kiandra .	g	38	25	0
Lismore .	b	69	41	0
Maitland .	b	60	45	0
M'n'ng H.	b	59	42	0
Marsdens.	n	58	39	0
Menindie.	b	58	39	0
Molong ..	b	48	27	0
M'r'ng'r'll	n	57	35	0
Moree ..	b	72	38	0
Moruya ..	g	54	41	0
Moss Vale	r	46	40	0·04
Mt. Hope	b	62	39	0
M. Vict'ria		47	35	0
Mudgee ..	n	61	23	0
M'rr'mb'h	n	62	29	0
M'rr'r'ndi	o	52	39	0
Mus'lbr'k	g	64	34	0
Narrabri	b	60	37	0
Newcastle	c	61	48	0·01
Orange ..	n	47	33	0
Picton ..	n	55	37	0
P. M'q'rie	c	63	44	0
P. St'ph'n	r	51	43	1·41
Q'nbeyan	n	53	30	0
Quirindi	n	61	34	0
Singleton	b	58	44	0
SYDNEY ..	r	56	45	0·06
Taralga ..	g	47	36	0
Taree	b	62	50	0·01
T'nt'rfield	b	59	29	0
Wagga ..	n	56	25	0
Walcha ..	n	49	39	0
Walgett	b	60	38	0
Warrah ..	b	50	—	0
W'ntw'rth	c	60	39	0
W'll'ng'ng	c	58	54	0·03
Young ..	n	71	31	0

SYDNEY OBSERVATORY.

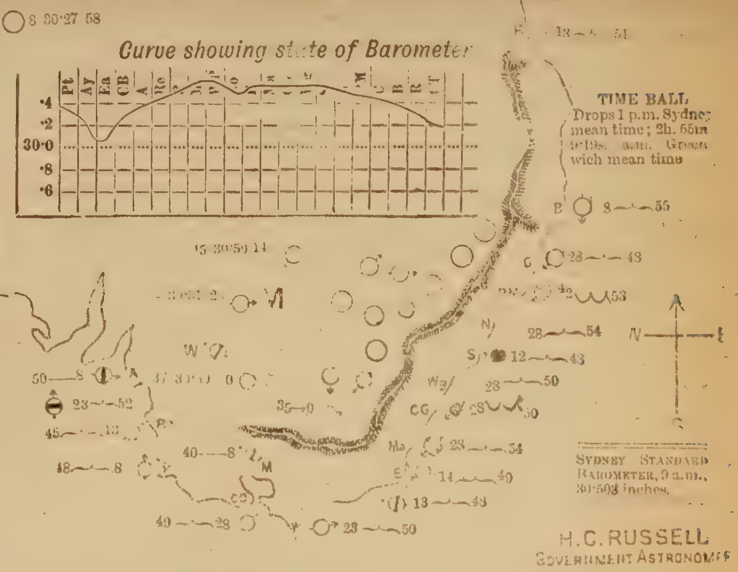
LATITUDE 33° 51' 41" S. LONGITUDE 10h. 4m. 50·51s. E.

MAGNETIC VARIATION, 9° 35' 57" E.

Average Annual Rainfall for 28 years .... 49·489
Average for 29 years from Jan. 1 to May 31 1887 .. 25·493
Total Rainfall from Jan. 1. to June 28 1887 ...... 35·61

Barometers corrected to 32° Fah. and Mean Sea Level

wind N. — wind E. — T. storm, wind S. — Rain, wind W.
If it is CALM the symbol used without the arrow
Smooth sea.
Heavy sea.
Very heavy sea.



NOTES EXPLANATORY OF MAP.

In the list of stations the column headed W.T. gives the state of the weather at 9 a.m., b standing for blue sky; c, detached clouds; d, drizzling rain; f, fog; g, gloomy; h, hazy; m, misty; n, frosty; o, overcast; p, passing showers; r, rain; s, snow; t, thunder; u, threatening. The next column, Mx gives the maximum temperature for previous 24 hours. Mn the corresponding minimum temperature; Rn, the rain for the previous 24 hours. The symbols used in the map are explained on the margin. At each coast station the wind symbol is placed like a vane pointing to the direction from which the wind is coming. A clear circle with it means fine weather; a circle with bar, cloudy weather; and a black spot, raining. Next to this symbol are placed figures denoting the number of miles the wind is moving per hour; next, a symbol showing the state of the sea; and, lastly, figures denoting the shade temperature at 9 a.m. The barometer curve shows the state of barometers round the coast from Perth to Cooktown:- Pt, Perth; Ay, Albany; Ea, Eucla; CB, Cape Borda; A, Adelaide; Re, Robe; P, Portland; M, Melbourne; W P, Wilson's Promontory; Go, Gabo; E, Eden; Ma, Moruya; C G Jervis Bay, Wg, Wollongong, S, Sydney; N, Newcastle; P M, Port Macquarie; C, Clarence River, B, Brisbane; R, Rockhampton; Ct, Cooktown. Inland the state of barometer is given in figures at Albury, Deniliquin, Wentworth, Menindie, Bourke, and Alice Springs. The barometer curve enables one at a glance to trace the depressions, beginning with Western Australia, and passing along eastwards; northerly winds preceding them, and southerly following.

The rainfall on Sundays or holidays, when this map is not published, is in all cases included in the quantities shown by the next following map.

9 A.M. OBSERVATIONS.

Western Australia.—On the south coast heavy rains have fallen, and it is still showery from S.E. and S.W., with moderate to rough sea. Rainfall: Albany, 2.36; Perth, 0·40; and Esperance Bay, 0·20 inches. Extremes of barometers and temperature:—Perth, 30·35 and 41°; Esperance Bay, 30·16 and 53°.

South Australia.—Generally overcast and gloomy south of Peake, with light E. to N.E winds and calms, fallen barometers, and moderate sea. Rainfall: Eucla, 0·56 inch. In Northern Territory, fine, with S.E. winds. Extremes of barometers and temperature:—Port Augusta, 30·50; Eucla, 30·01; Port Darwin, 68°; and Robe, 45°.

Victoria.—Generally fine, with light N.E. to S.E. winds, risen barometers, and smooth sea. Frosty and foggy at places. Rainfall: Lakes' Entrance, 0·24; and Omeo. 0·07 inches. Extremes of barometers and temperature: Ballarat, 30·57 and 37°; Hamilton, 30·44, and Horsham, 53°.

Tasmania.—Generally more or less cloudy and gloomy, with light variable winds and calms, risen barometers, and moderate sea. Rainfall at Southport, 0.04 inches. Extremes of barometers and temperature: Southport, 30·65; Falmouth, 30·54; and Low Heads, 40°.

New Zealand.—Passing showers of snow from S.W., at Bluff; fine to northward, with S.W. winds and calm. Barometers: In north, 29·8; over the centre, 29·7; and in south, 29·9.

New South Wales.—Fine and cold west of the dividing ranges, with light variable winds, chiefly easterly, and calms. Along the coast cloudy and gloomy, with passing showers between Cape St. George and Port Stephens, and fresh S. to S.W. winds blowing. The sea is moderate, but rough at places north and south of Sydney. During the previous 24 hours rain fell along the coast. Extra Stations.—Gabo Island, 0·02 inch rain; Katoomba, maximum 50°, minimum 34°, and cloudy; Brewarrina, maximum 64°, minimum 33°, and fine; Tamworth, maximum 58°, minimum 30°, and fine. Extremes of barometers and temperature: Hay, 30·57; Gabo Island, 30·40; Moruya and Newcastle, 51°; Tamworth, 31°. For further particulars see map.

Queensland.—Generally fine and cold, but along the coast more or less cloudy and unsettled; light to fresh south-easterly winds, fallen barometers, and the sea smooth, but rough off Cooktown. Extremes of barometers and temperature: Roma, 30·38 and 45°; Cooktown, 30·17 and 71°.

3 P.M. OBSERVATIONS.

Victoria.—Portland, E.N.E., 13, fine, smooth sea, temperature 53°; Cape Otway, E. 23, fine, smooth sea, temperature 51°; Melbourne, N.N.W., dense fog, temperature 45°; Cape Schanck, calm, fine and misty, smooth sea, temperature 54°; Wilson's Promontory, E.N.E., 23, passing showers, smooth sea, temperature 50°; Lakes' Entrance, S.E., 8, fine but cloudy, temperature 55°.

New South Wales.—Menindie, S.W., 14, overcast and like rain, temperature 55°, Wentworth, E., 14, overcast and dull, temperature 47°; Deniliquin, calm, fine, temperature 58°; Eden, calm, fine, but cloudy, light east sea, temperature 57°; Moruya, S.S.W., 28, fine but dull, moderate sea, temperature 54°; Sydney, S.S.W., 13, fine but cloudy, heavy sea, temperature 55°; Newcastle, S.W., 23, showery and dull, moderate sea, temperature 56°; Port Macquarie, S.S.W., 42, cloudy and unsettled, moderate sea, temperature 43°; Clarence River, S.W., 42, fine, moderate sea, temperature 63°; Walgett, S.E., 14, cloudy, temperature 62°; Dubbo, N.E., 14, fine, temperature 58°; Goulburn, calm, dull, temperature 61°.

Queensland.—Cooktown, S.E., 23, fine and clear, rough sea, temperature 73°; Boulia, E.N.E, fine and clear; Hughenden, 18, fine and warm; Rockhampton, E.S.E., 28, cloudy, moderate sea, temperature 69°; Brisbane, S.S.E., 8, fine, but cloudy, temperature 66°.

HEIGHT OF RIVERS ABOVE SUMMER LEVEL.

Macintyre: At Mungindi, low. Barwon: At Mogil Mogil, low; Walgett, low. Namoi: At Walgett, 9 feet. Culgoa: At Goodooga, low. Darling: At Brewarrina, low; at Bourke, low; at Louth, 2 feet 10 inches; at Menindie, 19 feet; at Pooncarie, 22 feet 2 inches; at Wentworth, 13 feet 7 inches. Murrumbidgee: At Gundagai, 9 feet 10 inches; at Wagga, 14 feet; at Hay, 10 feet; at Balranald, 11 feet 9 inches. Murray: At Albury, 8 feet; at Euston, 10 feet.

ASTRONOMICAL MEMORANDA FOR JUNE 29.

Sun rises at 7.7, sets at 4.59; Moon rises at 12.43 p.m.; Mercury, 8.49 a.m., 6.56 p.m.; Venus, 9.54 a.m., 8.39 p.m.; Mars, 5.58 a.m., 3.46 p.m.; Jupiter, 12.43 p.m., 1.37 a.m.; Saturn, 8.18 a.m., 6.18 p.m. Full moon, 6th; new moon, 21st.

High water at Fort Denison: 1.35 a.m., 2.9 p.m.

H. A. LENEHAN,
Acting Government Astronomer.

Stations.	(W)	Mx	Mn	Rn
Albury ..	u	57	35	0
Armidale	b	45	35	0
Balranald	b	51	39	0
Bathurst	f	52	39	0
Bendem'r	u	50	35	0
Bodalla ..	g	58	37	0
Bourke ..	c	64	36	0
Buncarra	n	—	35	0
C'md'n H.	c	69	49	0·17
C. St. Geo.	c	57	49	0·08
Carcoar ..	g	47	35	0
Casino ..	g	67	31	0
Cassilis ..	o	50	35	0
Clarence ..	c	68	49	0·20
C'nd'b'lin	c	61	43	0
Cooma ..	c	53	30	0
Coonab'n.	g	62	31	0
Cowra ..	g	57	33	0
Cudg'llico	g	65	43	0
Deniliq'n.	r	67	34	0
Dubbo ..	b	60	37	0
Eden ...	u	56	44	0·03
Euston ..	u	62	39	0·02
Forbes ..	u	—	40	0
Glen Inn's	r	57	33	0·02
Goulburn	u	48	35	0
Grafton ..	b	63	43	0·01
Gulgong ..	g	54	32	0
Gunned'h	c	59	37	0
Hay	r	61	44	0·09
Inverell ..	b	57	30	0
Kiandra ..	g	37	15	0
Lismore ..	c	65	44	0·01
Maitland ..	g	62	45	0
M'n'ng H.	b	59	47	0·15
Marsdens.	c	56	37	0
Menindie.	g	56	42	0
Molong ..	b	48	27	0
M'r'ng'r'll	c	57	38	0
Moree ..	b	74	41	0
Moruya ..	g	57	43	0·10
Moss Vale	r	47	42	0·01
Mt. Hope	u	67	36	0
M. Vict'ria	f	46	34	0·03
Mudgee ..	u	61	30	0
M'rr'mb'h	f	58	31	0
M'rr'r'ndi	f	52	43	0
Mus'lbr'k	o	62	38	0
Narrabri	c	61	34	0
Newcastle	c	55	45	0·37
Orange ..	u	47	36	0
Picton ..	g	56	36	0
P. M'q'rie	r	63	45	0
P. St'ph'n	r	55	44	0·41
Q'nbeyan	c	57	35	0
Quirindi	g	65	45	0
Singleton	g	55	46	0·10
SYDNEY ..	o	56	47	0·41
Taralga ..	r	56	38	0
Taree	b	62	48	0·06
T'nt'rfield	c	56	36	0
Wagga ..	u	55	31	0
Walcha ..	f	49	30	0
Walgett	g	62	43	0
Warrah ..	b	60	—	0
W'ntw'rth	r	60	39	0
W'll'ng'ng	g	59	55	0·01
Young ..	u	69	40	0

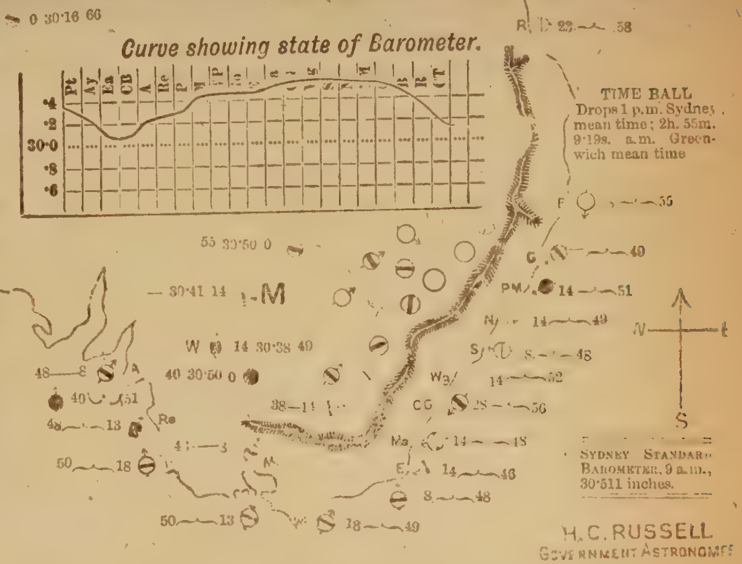
SYDNEY OBSERVATORY.

LATITUDE 33° 51′ 41″ S. LONGITUDE 10h. 4m. 50·81s. E.

MAGNETIC VARIATION, 9° 35′ 37″ E.

Average Annual Rainfall for 28 years .... 49·480
Average for 29 years from Jan. 1 to May 31 1887 .. 25·403
Total Rainfall from Jan. 1, to June 29 1887 ...... 35·427

Barometers corrected to 32° F. h. and Mean Sea Level



Fine, wind N. Cloudy, wind E.
T. storm, wind S. Rain, wind W.
If it is CALM, the symbol used without the arrow
Smooth sea.
Heavy sea.
Very heavy sea.

TIME BALL
Drops 1 p.m. Sydney mean time; 2h. 55m. 9·19s. a.m. Greenwich mean time

SYDNEY STANDARD BAROMETER, 9 a.m., 30·511 inches.

H. C. RUSSELL
GOVERNMENT ASTRONOMER

NOTES EXPLANATORY OF MAP.

In the list of stations the column headed W.T. gives the state of the weather [illegible] b stands for blue sky; c, detached clouds; d, drizzling rain; f, fog; [illegible] hazy; m, misty; [illegible] o, overcast; p, passing showers; r, rain; s, snow; t, thunder; u, threatening. The next column, Mx gives the maximum temperature for previous 24 hours; [illegible] the minimum temperature [illegible] the rain for the previous 24 hours. The symbols used in the map are explained on the margin. At each coast station the wind symbol is placed like a vane pointing to the direction from which the wind is coming. A clear circle with it means fine weather; a circle with bar, cloudy weather; and a black spot, raining. Next to this symbol are placed figures denoting the number of miles the wind is moving per hour; next, a symbol showing the state of the sea; and, lastly, figures denoting the shade temperature at 9 a.m. The barometer curve shows the state of barometers round the coast from Perth to Cooktown:—Pt, Perth; Ay, Albany; Ea, Eucla; CB, Cape Borda; A, Adelaide; Re, Robe; P, Portland; M, Melbourne; W P, Wilson's Promontory; Go, Gabo; E, Eden; Ma, Moruya; C G Jervis Bay; Wg, Wollongong; S, Sydney; N, Newcastle; P M, Port Macquarie; C, Clarence River; B, Brisbane; R, Rockhampton; Ct, Cooktown. Inland the state of barometer is given in figures at Albury, Deniliquin, Wentworth, Menindie, Bourke, and Alice Springs. The barometer curve enables one at a glance to trace the depressions, beginning with Western Australia, and passing along eastwards; northerly winds preceding them, and southerly following.

The rainfall on Sundays or holidays, when this map is not published, is in all cases included in the quantities shown by the next following map.

9 A.M. OBSERVATIONS.

Western Australia.—Fine along the west coast, with light easterly winds, showery, with variable winds and calm in south parts. Rainfall: Albany, 0·21 inch. Sea moderate, but rather rough at Cossack. Extremes of barometers and temperature: Perth, 30·35 and 40°; Cossack, 30·18; and Carnarvon, 65°.

South Australia.—Generally overcast south of Peake; raining steadily south of Quorn; light N.E. to N.W. winds, but strong at places on the coast, falling barometers, and moderate to rough sea. Rain has fallen south of Hawker, generally from 0·10 to 0·50 inch; Crafers, 0·67; Elliston and Cape Borda, 0·62; Grenock and Lobethal, 0·50; Adelaide, 0·51; Port Lincoln, 0·34; and Streaky Bay, 0·32 inch. Extremes of barometers and temperature: Cape Northumberland, 30·28 and 45°; Port Darwin, 30·04 and 75°.

Victoria.—Generally cloudy and unsettled, with light rain in west parts; light N. to N.E. winds, falling barometers, and smooth sea. Rainfall: Horsham and Wilson's Promontory, 0·05; Hamilton, 0·04 inches. Extremes of barometers and temperature: E huca, 30·52; Portland, 30·30; Horsham and Cape Schanck, 53°; Omeo, 35°.

Tasmania.—Cloudy and showery on the north coast, fine in south and east parts; light variable winds and calms, falling barometers, and smooth sea. Rainfall at Circular Heads, 0·29 inch. Extremes of barometers and temperature: Low Heads, 30·48 and 43°; Circular Heads, 30·41; and [illegible].

New Zealand.—Gloomy, with east wind in south; fine, with S.E. to S.W. winds to northward; hailstorms and heavy showers during the night at Wellington. Barometers: In north, 29·9; to southward, 30·0.

New South Wales.—In north parts cloudy, but otherwise fine; in central, coast, and mountain districts light rain, then mist, or fog; in extreme S.W. part light misty rain. Over the remainder of the colony cloudy, dull, or threatening weather prevails. Winds generally light, N. to E. in west parts, variable and calms over the centre, and S.W. to W. along the coast. Sea smooth to moderate. During the previous 24 hours light rains fell along the coast. Extra stations: Gabo Island, 0·04 inch rain fallen; Katoomba, maximum 52°, minimum 40°, and foggy. Extremes of barometers and temperature: Forbes, Albury, and Wollongong, 30·52; Wentworth, 30·38; Cape St. George, 56°; and Kiandra, 27°.

Queensland.—Generally fine and cold, but unsettled on the coast; light to fresh N.E. to S.E. winds, almost steady barometers, and moderate to rough sea. Rainfall: 0·20 inch at Cape Moreton, and still showery. Extremes of barometers and temperature: Brisbane, 30·43 and 55°; Cooktown, 30·15; and Normanton, 72°.

3 P.M. OBSERVATIONS.

Victoria.—Portland, N.N.E., 23, light rain, smooth sea, temperature 50°; Cape Otway, E.N.E., 8, overcast and misty, smooth sea, temperature 50; Melbourne, N., 8, cloudy and gloomy, temperature 48°; Cape Schanck, N., 13, cloudy and threatening, moderate sea, temperature 52°; Wilson's Promontory, N.N.E., 18, cloudy and squally, smooth sea, temperature 49°; Lakes' Entrance, calm, cloudy and gloomy, temperature 51°.

New South Wales.—Menindie, S.W., 28, cloudy and cold, temperature 56°; Wentworth, S.E., 14, raining, temperature 48°; Deniliquin, N.E., 14, overcast, dull, and showery, temperature 57°; Eden, calm, fine but cloudy, light E. sea, temperature 58°; Moruya, calm, overcast, gloomy, and like rain, smooth sea, temperature 53°; Cape St. George, S.W., 28, cloudy, smooth [illegible] temperature 58°; Sydney, W. [illegible] misty and overcast, moderate sea, temperature 53°; Newcastle, S., 14, dull, moderate sea, temperature [illegible]; Port Macquarie, S.W., [illegible] showery, moderate sea, temperature 61; Clarence River, S., 28, fine, moderate sea, temperature [illegible]; Wagga, calm, dull, temperature 60°; Dubbo, N.E., 1[illegible] fine but cloudy, temperature 59°; Goulburn, S.E., 14, dull, temperature [illegible].

Queensland.—Hughenden, S.E., [illegible]3, fine; Normanton, S.E., 18, cloudy, temperature 88°; Townsville, S.E., 28, fine and clear, temperature 7[illegible]; Burketown, S.E., fine and warm; Blackall, N.E., 8, cloudy and cool; Rockhampton, E., 28, fine, temperature 6[illegible]; Cape Moreton, S.E., 28, overcast, temperature 62°; Brisbane, S.E., 13, fine but cloudy, temperature 65°; Thargomindah, N.E., 8, cloudy.

HEIGHT OF RIVERS ABOVE SUMMER LEVEL.

Macintyre: At Mungindi, low. Barwon: At Mogil Mogil, low; Walgett, low. Namoi: At Walgett, 8 feet 6 inches. Culgoa: At Goodooga, low. Darling: At Brewarrina, low; at Bourke, low; at Louth, 2 feet 9 inches; at Tilpa, 3 feet 3 inches; at Wilcannia, 7 feet; at Menindie, 18 feet 9 inches; at Pooncarie, 21 feet 10 inches; at Wentworth, 13 feet 8 inches. Murrumbidgee: At Gundagai, 8 feet 6 inches; at Wagga, 12 feet 3 inches; at Hay, 9 feet 4 inches; at Balranald, 11 feet 9 inches. Murray: At Albury, 7 feet 4 inches; at Euston, 10 feet 1 inch.

ASTRONOMICAL MEMORANDA FOR JUNE 30.

Sun rises at 7.7, sets at 5; Moon rises at 1.21 p.m., sets at 1.1 a.m.; Mercury, 8.48 a.m., 6.58 p.m.; Venus, 9.53 a.m., 8.31 p.m.; Mars, 5.57 a.m., 3.45 p.m.; Jupiter, 12.39 p.m., 1.33 a.m.; Saturn, 8.15 a.m., 6.15 p.m. Full moon, 6th; new moon, 21st.

High water at Fort Denison: 2.42 a.m., 3.20 p.m.

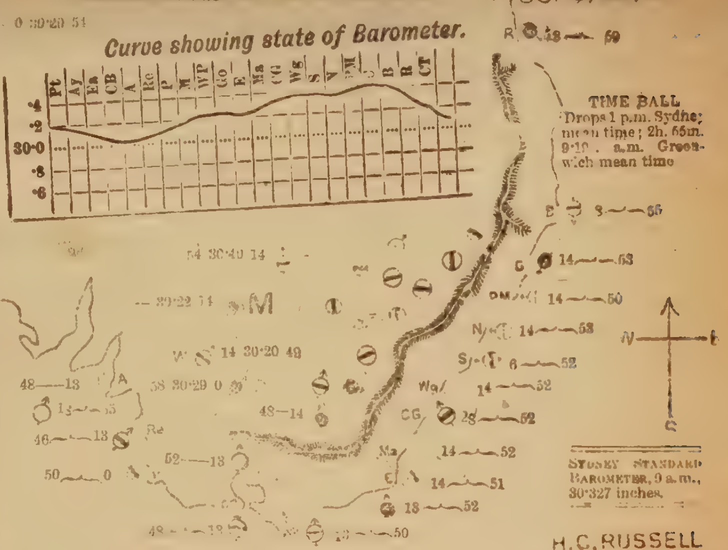
H. A. LENEHAN,
Acting Government Astronomer.

[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Armidale	u	[illegible]	38	0
Balranald	r	61	40	0·07
Bathurst	f	51	34	0
Bendem'r	u	50	41	0
Bodalla ..	u	60	41	0·03
Bourke ..	c	66	41	0
Euacarra	c		40	0
C'md'n H.	c	61	50	0
C. St. Geo.	c	77	49	0
Carcoar ..	g	48	37	0
Casino ..	u	61	46	0
Cassilis ..	u	54	46	0
Clarence ..	r	65	59	0
C'nd'b'lin	u	62	45	0
Cooma ..	c	60	35	0
Coonab'n.	c	59	40	0
Cowra ..	g	52	42	0
Cudg'llico	u	65	42	0
Deniliq'n.	r	65	39	0·10
Dubbo ..	o	62	43	0
Eden	u	53	44	0·01
Euston ..	r	57	44	0·17
Forbes ..	u	—	41	0
Glen Inn's	c	51	37	0
Goulburn	f	48	32	0
Grafton ..	n	66	49	0
Gulgong ..	u	50	28	0
Gunned'h	c	60	38	0
Hay	r	59	45	0·23
Inverell ..	o	60	39	0
Kiandra ..	g	37	28	0
Lismore ..	r	65	48	0·03
Maitland ..	f	64	48	0
M'n'ng H.	g	60	48	0·15
Marsdens.	c	54	42	0
Menindie.	r	58	47	0·05
Molong ..	c	48	32	0
M'r'ng'r'll	c	55	40	0
Moree ..	g	70	46	0
Moruya ..	g	56	46	0·02
Moss Vale	c	48	42	0·01
Mt. Hope	n	65	39	0

LATITUDE 33° 51' 41" S. LONGITUDE 10h. 4m. 50·81s. E.
MAGNETIC VARIATION, 9° 35' 37" E.

Average Annual Rainfall for [illegible] ... 49·459
Average for [illegible] years from Jan. 1 to [illegible] 1887 ... 23·463
Total Rainfall from Jan. 1, to June 30 1887 ...... 35·485

Barometers corrected to 32° Fah. and Mean Sea Level



H. C. RUSSELL
GOVERNMENT ASTRONOMER

M. Vict'ria	u	47	38	0
Mudgee ..	u	58	38	0
M'rr'mb'h	c	43	35	0
M'rr'r'ndi	u	52	45	0
Mus'lbr'k	g	61	42	0
Narrabri	g	64	41	0
Newcastle	g	58	49	0
Orange ..	r	48	40	0
Picton ..	f	55	40	0
P. M'q'rie	o	62	46	0
P. St'ph'n	c	52	46	0
Q'nbeyan	n	54	30	0
Quirindi	o	61	41	0
Singleton	g	56	44	0
SYDNEY ..	o	54	49	0·01
Taralga ..	g	59	32	0·0[illegible]
Taree	g	61	50	0·01
T'nt'rfi'ld	u	55	41	0
Wagga ..	r	51	33	0·0[illegible]
Walcha ..	o	47	35	0
Walgett	u	60	46	0
Warrah ..	g	61	—	0
W'ntw'rth	g	53	48	0·14
W'll'ng'ng	g	58	53	0
Young ..	u	56	35	0

NOTES EXPLANATORY OF MAP.

In the list of stations the column headed W. T. gives the state of the weather at 9 a.m., b standing for blue sky; c, detached clouds; d, drizzling rain; f, fog; g, gloomy; h, hazy; m, misty; n, frosty; o, overcast; p, passing showers; r, rain; s, snow; t, thunder; u, threatening. The next column, M'x gives the maximum temperature for previous 24 hours. M'n the corresponding minimum temperature; R'n, the rain for the previous 24 hours. The symbols used in the map are explained on the margin. At each coast station the wind symbol is placed like a vane pointing to the direction from which the wind is coming. A clear circle with it means fine weather; a circle with bar, cloudy weather; and a black spot, raining. Next to this symbol are placed figures denoting the number of miles the wind is moving per hour; next, a symbol showing the state of the sea; and, lastly, figures denoting the shade temperature at 9 a.m. The barometer curve shows the state of barometers round the coast from Perth to Cooktown:—Pt, Perth; Ay, Albany; Ea, Eucla; CB, Cape Borda; A, Adelaide; Re, Robe; P, Portland; M, Melbourne; WP, Wilson Promontory; Go, Gabo; E, Eden; Ma, Moruya; CG Jervis bay; Wg, Wollongong; S, Sydney; N, Newcastle; PM, Port Macquarie; C, Clarence River; B, Brisbane; R, Rockhampton; Ct, Cooktown. Inland the state of barometer given in figures at Albury, Deniliquin, Wentworth, Menindie, Bourke, and Alice Springs. The barometer curve enables one at a glance to trace the depressions, beginning with Western Australia, and passing along eastwards; northerly winds preceding them, and southerly following.

The rainfall on Sundays or holidays, when this map is not published, is in all cases included in the quantities shown by the next following map.

9 A.M. OBSERVATIONS.

Western Australia.—Generally fine, with light N. to E. winds and calms, falling barometers, and moderate sea. Rainfall: Eucla, 0·34; Esperance Bay, 0·07; and Albany, 0·02 inches. Extremes of barometers and temperature: Carnarvon, 30·24 and 74°; Albany, 30·14; and Esperance Bay, 41°.

South Australia.—Generally overcast and gloomy between Adelaide and Peake, and on parts of the coast and ranges; light scattered clouds elsewhere. Light N. to N.E. winds and calms, falling barometers, and moderate sea. Rainfall: South of Hawker, generally from 0·05 to 0·40 inches; Cape Jervois, 0·62; Queenscliffe, 0·51; Craters, 0·45; and Glenock, 0·40 inches. Extremes of barometers and temperature: Alice Springs, 30·20; Streaky Bay, 29·97; Port Darwin, 75°; and Robe, 46°.

Victoria.—Generally cloudy and unsettled, with light northerly winds, falling barometers, and smooth sea; raining at a few scattered places. Rainfall: Cape Otway, 0·24; Horsham, 0·23; Wilson's Promontory, 0·25; Cape Schanck, 0·20; Hamilton, 0·19; and Ballarat, 0·08 inches. Extremes of barometers and temperature. Echuca, 30·31; Portland, 30·11; Horsham, 55°; and Ballarat, 47°.

Tasmania.—Showery in north parts; fine but cloudy along the east coast, with light variable winds and calms, falling barometers, and smooth to moderate sea. Rainfall: Generally from 0·30 to 0·38 inches. Extremes of barometers and temperature: South Port, 30·25 and 39°; Circular Heads, 30·17 and 48°.

New Zealand. Generally fine, with calms on North Island, but fresh S.W. wind in extreme south. Barometers: In north, 30·2; to southward, 30·1.

New South Wales.—Overcast, gloomy, or threatening throughout the colony, with rain falling in south and south-west, and in extreme north parts. Foggy or misty in central, coast, and mountain districts. Winds: Very light, variable, and calms, but chiefly N. to E. winds. Sea smooth to moderate. During the previous 24 hours light rains fell in north and south coast districts, on the Lower Darling, and along the Victorian border. Extra stations: Gabo Island, 0·01 inch rain. Extremes of barometers and temperature: Walgett, 30·40; Gabo Island, 30·17; Bourke, 54°; and Kiandra, 35°. For further particulars see map.

Queensland.—Generally cloudy and threatening, with light rains falling in south parts; light S. to E. winds, almost steady barometers, and moderate to rather rough sea. Rainfall: Cooktown, 0·17; and in south parts generally from 0·01 to 0·06 inches. Extremes of barometers and temperature: Brisbane, 30·39; Normanton, 30·11; Cooktown, 74°; and Roma, 51°.

3 P.M. OBSERVATIONS.

Victoria.—Portland, E.S.E., 8, fine but cloudy, smooth sea, temperature 55°; Cape Otway, N.N.W., 8, fine but cloudy, smooth sea, temperature 51°; Melbourne, N., 18, overcast and gloomy, temperature 55°; Cape Schanck, N., 13, overcast and gloomy, slight sea, temperature 54°; Wilson's Promontory, N., 13, overcast and squally, smooth sea, temperature 54°; Lakes Entrance, W., 8, fine, but cloudy, temperature 56°.

New South Wales.—Eden, N., 14, fine but cloudy, light [illegible] sea, temperature 57°; Moruya, N., 14, fine but dull, smooth sea, temperature 57°; Cape St. George, N.W., 14, fine but cloudy, smooth sea, temperature 56°; Sydney, W., 1, overcast, misty, and almost calm, smooth sea, temperature 56°; Newcastle, N.W., 14, dull, smooth sea, temperature 57°; Port Macquarie, N.W., 14, cloudy, moderate sea, temperature 61°; Clarence River, calm, slight showers, smooth sea, temperature 62; Dubbo, calm, fine but cloudy, temperature 60; Goulburn, calm, dull, temperature 61.

Queensland. Cooktown, S.E., 8, showery, rough sea, temperature 71; Normanton, S.E., 8, gloomy, temperature 85°; Townsville, S.E., 23, overcast and gloomy, moderate sea, temperature 72°; Mackay, N., 13, cloudy; Rockhampton, S.E., 13, overcast, temperature [illegible]; Cape Moreton, E., 23, cloudy, temperature 65°, Brisbane, E., 13, cloudy, temperature 66°.

HEIGHT OF RIVERS ABOVE SUMMER LEVEL.

Macintyre: At Mungindi, low. Barwon: At Mogil Mogil, low: Walgett, low. Namoi: At Walgett, 8 feet. Culgoa: At Goodooga, low. Darling: At Brewarrina, low; at Bourke, low; at Louth, 2 feet 8 inches; at Tilpa, 3 feet 2 inches; at Wilcannia, 7 feet; at Menindie, 18 feet 6 inches; at Pooncarie, 21 feet 8 inches; at Wentworth, 13 feet 9 inches. Murrumbidgee: At Gundagai, 8 feet; at Wagga, 9 feet 6 inches; at Hay, 8 feet 9 inches; at Balranald, 11 feet 11 inches. Murray: At Albury, 6 feet 6 inches; at Euston, 10 feet 2 inches.

ASTRONOMICAL MEMORANDA FOR JULY 1.

Sun rises at 7.7, sets at 5; Moon rises at 2.2 p.m. sets at 2.5 a.m.; Mercury, 8.15 a.m., 7.0 p.m.; Venus, 9.52 a.m., 8.52 p.m.; Mars, 5.56 a.m., 3.44 p.m.; Jupiter, 12.56 p.m., 1.30 a.m.; Saturn, 8.11 a.m., 6.11 p.m. Full moon, 5th; new moon, 21st.
High water at Fort Denison: 3.58 a.m., 4.37 p.m.

H. A. LENEHAN,
Acting Government Astronomer.

SYDNEY OBSERVATORY

LATITUDE 33° 51′ 41″ S. LONGITUDE 10h. 4m. 50·31s. E.

MAGNETIC VARIATION; 9° 35′ 37″ E.

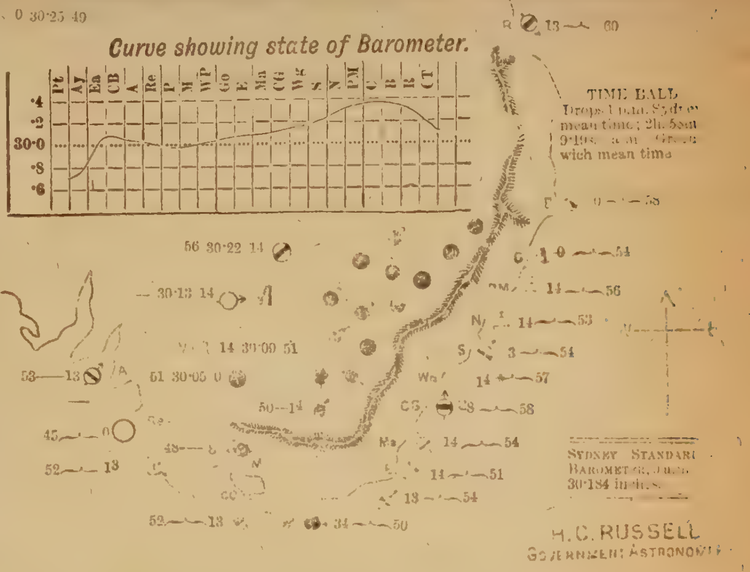
Average Annual Rainfall for 28 years........ 49·480
Average for 29 years from Jan. 1 to June 30 18·7 .. 30·968
Total Rainfall from Jan. 1. to JULY 1 1887 ...... 35·456

Barometers corrected to 32° Fah. and Mean Sea Level

Albury	r	[illegible]	44	[illegible]
Armidale	u	50	51	0·03
Balranald	r	62	38	0·78
Bathurst	r	52	40	0·10
Bendem'r	r	55	42	0·11
Bodalla	c	78	39	0
Bourke	c	62	46	0·72
Buncarra	r		44	0·05
C'md'n H.	c	62	50	0
C. St. Geo.	c	62	51	0
Carcoar	r	53	36	0·05
Casino	r	64	51	0·03
Cassilis	u	54	46	0·16
Clarence	u	64	53	0·22
C'nd'b'lin	r	63	51	0·37
Cooma	c	55	43	0·05
Coonab'n.	r	58	44	0·62
Cowra	r	55	45	0·21
Cudg'llico	r	69	45	0·86
Deniliq'n.	r	64	41	0·75
Dubbo	r	58	46	0·17
Eden	u	57	51	0·10
Euston	r	53	46	0·60
Forbes	r	—	41	0·22
Glen Inn's	r	49	40	0·10
Goulburn	u	53	44	0·07

0——50
EUCLA

Grafton	c	62	52	0·04
Gulgong	r	55	36	0·45
Gunned'h	r	61	50	0
Hay	u	51	48	0·55
Inverell	r	57	43	0·10
Kiandra	r	43	34	0
Lismore	r	65	48	0·08
Maitland	g	60	50	0·02
M'n'ng H.	g	61	50	0
Marsdens.	r	57	47	0·44
Menindie.	b	58	47	0·12
Molong	r	50	40	0·13
M'r'ng'r'll	u	56	41	0·51
Moree	r	62	48	0·21
Moruya	o	59	46	0
Moss Vale	g	52	44	0·01
Mt. Hope	r	73	41	0·75
M. Vict'ria	u	50	40	0
Mudgee	r	54	39	0·30
M'rr'mb'h	r	47	36	0·15
M'rr'r'ndi	r	56	48	0·10
Mus'lbr'k	f	64	45	0·06
Narrabri	r	65	45	0·16
Newcastle	g	59	49	0
Orange	r	73	44	0·22
Picton	r	56	44	0·06
P. M'q'rie	u	63	50	0
P. St'ph'n	c	58	50	0
Q'nbeyan	r	56	36	0·50
Quirindi	r	60	49	0·13
Singleton	u	58	51	0
SYDNEY	o	57	52	0
Taralga	u	52	39	0
Taree	r	60	50	0·02
T'nt'rfield	r	58	47	0·12
Wagga	r	51	37	0·83
Walcha	u	53	35	0·04
Walgett	r	60	53	0
Warrah	g	60	—	0·14
W'ntw'rth	g	54	49	0·61
W'll'ng'ng		62	50	0
Young		51	41	0·29



calm, [illegible] wind N. [illegible] wind S. T. storm, wind S. wind W.
If it is CALM, the symbol used without the arrow.
Smooth sea.
Heavy sea.
Very heavy sea.

NOTES EXPLANATORY OF MAP.

In the list of stations the column headed W. ... gives the state of the weather at 9 a.m., b standing for blue sky, c, detached clouds, d, drizzling rain, f, fog, g, gloomy, h, hazy, m, misty, p, frosty; o, overcast; p, passing showers; r, rain; s, snow; t, thunder, u, threatening. The next column, Mx gives the maximum temperature for previous 24 hours. M'n the corresponding minimum temperature; Ra, the rain for the previous 24 hours. The symbols used in the map are explained on the margin. At each coast station the wind symbol is placed like a vane pointing to the direction from which the wind is coming. A clear circle with it means fine weather; a circle with bar, cloudy weather; and a black spot, raining. Next to this symbol are placed figures denoting the number of miles the wind is moving per hour; next, a symbol showing the state of the sea; and, lastly, figures denoting the shade temperature at 9 a.m. The barometer curve shows the state of barometers round the coast from Perth to Cooktown:—Pt, Perth; Ay, Albany; Ea, Eucla; CB, Cape Borda; A, Adelaide; Re, Robe; P, Portland; M, Melbourne; WP, Wilson's Promontory; Go, Gabo; E, Eden; Ma, Moruya; CG Jervis Bay; Wg, Wollongong, S, Sydney; N, Newcastle; PM, Port Macquarie; C, Clarence River; B, Brisbane; R, Rockhampton; C., Cooktown. Inland the state of barometer is given in figures at Albury, Deniliquin, Wentworth, Menindie, Bourke, and Alice Springs. The barometer curve enables one at a glance to trace the depressions, beginning with Western Australia, and passing along eastwards; northerly winds preceding them, and southerly following.

The rainfall on Sundays or holidays, when this map is not published, is in all cases included in the quantities shown by the next following map.

9 A.M. OBSERVATIONS.

Western Australia.—Fine in N.W. parts; cloudy, threatening, or raining in south, with light to fresh N.E. to N.W. winds, and moderate sea, but rough off Geraldton. Rainfall: Perth, 1·01; and Albany, 0·31 inches. Extremes of barometers and temperature: Ashburton, 30·13; Albany, 29·70; Carnarvon, 73°; and Esperance Bay, 45°.

South Australia.—Generally overcast and unsettled, with light rain in some parts, but in others clearing; light N.E. to N.W. winds, and at places westerly; falling barometers, and smooth sea. Rain fell on coast, over Yorke's Peninsula, and along Flinder's Range, generally from 0·10 to 0·40 inch. Extremes of barometers and temperature: Alice Springs, 30·25; Robe, 29·99 and 45°; Port Darwin, 79°.

Victoria.—Generally raining or threatening, with light variable chiefly easterly winds and calms, but squally at Wilson's Promontory. Rainfall: Echuca 0·51, Hamilton and Ballarat 0.26, Horsham 0·22, Melbourne 0·19, Wilson's Promontory 0·15 inches; and at other places smaller quantities. Extremes of barometers and temperatures: Echuca 30·06, Lakes Entrance 29·99, Horsham 56°, and Hamilton 44°.

Tasmania.—Generally showery and cloudy, with light S.E. winds and calms; fallen barometers and smooth sea. Rainfall: Southport 0·40, Falmouth 0·07, and Low Heads 0·01 inches. Extremes of barometers and temperature: Southport 30·23, Falmouth 30·15 and 50°, Low Heads 47°.

New Zealand.—Generally fine, with S.E. to S.W. winds. Barometers: over centre 30·2, to north and southward 30·3.

New South Wales.—Along the coast overcast, gloomy, or threatening, with light rain falling at a few scattered places, over the remainder of the colony raining steadily, except on the Lower Darling, where it is clearing. Winds: Generally light, chiefly from N.E. to north, and calms. Sea smooth to moderate. During the previous 24 hours rain fell throughout the colony, except along the coast; the heaviest falls occurred along the western rivers. Extra stations.—Rainfall: Gabo Island, 0·05, Tamworth, 0·10; Hill End, 0·27; Wilcannia, 0·61; and Brewarrina, 0.73 inches. Extremes of barometers and temperature: Clarence, 30·32; Albury, 30·04; Cape St. George, 58°; and Kiandra, 37°. For further particulars see map.

Queensland.—Generally overcast, gloomy, and unsettled, with showery weather in south parts; light N.E. to S.E. winds, fallen barometers, and moderate sea. Rainfall: Boulia, 0·35; Thargomindah, 0·70; Blackall, 0·12; over the remainder of the colony from 0·01 to 0·10 inches. Extremes of barometers and temperature: Brisbane, 30·32; Normanton, 30·10, and 70°; and Roma, 57°.

3 P.M. OBSERVATIONS.

New South Wales.—Menindie, S.W., 14, fine, temperature 60°, Wentworth, N., 14, fine, temperature 54°; Deniliquin, N., 14, showery and dull, temperature 61°; Eden, N., 14, showery, smooth sea, temperature 56°; Moruya, N.N.E., 28, raining, smooth sea, temperature 56°, Cape St. George, N., 42, showery, smooth sea, temperature 62°, Sydney, N.E., raining lightly since 2.0 p.m., moderate sea, temperature 55°; Newcastle, N.N.W., 14, showery and dull, smooth sea, temperature 57°; Port Macquarie, N., 28, overcast, dull, and raining, smooth sea, temperature 61°; Clarence River, calm, raining, smooth sea, temperature 61, Dubbo, N.W., 14, overcast and raining, temperature 60°; Goulburn, N.E., 14, showery, temperature 61°.

Queensland.—Normanton, S.E., 8, fine and hazy, temperature 94°; Townsville, S.E., 18, fine but cloudy, smooth sea, temperature 72°; Rockhampton, E., 13, fine but cloudy, temperature 65°; Cape Moreton, N.E., 23, overcast, temperature 65°; Brisbane, calm, overcast, raining, temperature 62°; Burketown, S.E., fine and warm.

HEIGHT OF RIVERS ABOVE SUMMER LEVEL.

Macintyre: At Mungindi, 3 feet. Barwon: At Mogil Mogil, low; Walgett, low. Namoi: At Walgett, 7 feet 8 inches. Culgoa: At Goodooga, low. Darling: At Brewarrina, low; at Bourke, low; at Louth, 2 feet 7 inches; at Tilpa, 3 feet 11 inches; at Wilcannia, 7 feet; at Menindie, 18 feet 3 inches; at Pooncarie, 21 feet 9 inches; at Wentworth, 13 feet 10 inches. Murrumbidgee: At Gundagai, 7 feet 10 inches; at Wagga, 9 feet 9 inches; at Hay, 8 feet 1 inch; at Balranald, 11 feet 11 inches. Murray: At Albury, 6 feet 3 inches; at Euston, 10 feet 3 inches.

ASTRONOMICAL MEMORANDA FOR JULY 2.

Sun rises at 7.7, sets at 5; Moon rises at 9.47 p.m., sets at 3.10 a.m., Mercury, 8.41 a.m., 7.1 p.m., Venus, 9.51 a.m., 8.33 p.m.; Mars, 5.55 a.m., 5.43 p.m.; Jupiter, 12.32 p.m., 1.26 a.m.; Saturn, 8.8 a.m., 6.8 p.m. Full moon, 5th; new moon, 21st.

High water at Fort Denison: 5.15 a.m., 5.49 p.m.

H. A. LENEHAN,
Acting Government Astronomer.

Albury ..	g	56	44	0·40
Armidale	[illegible]	50	47	0·28
Balranald	c	63	35	0·10
Bathurst	b	51	42	0·40
Ben Lom'r	g	52	43	0·71
Bodalla ..	[illegible]	57	39	0·10
Bourke	1	68	37	0·05
Bn'cerra	g	—	49	0·50
C'md'n H.	[illegible]	72	51	0·20
C. St. Geo.	1	61	48	0
Carcoar ..	g	[illegible]4	38	0·45
Casino ..	r	59	51	0·37
Casslis ..	c	55	48	0·11
Clarence ..	r	65	57	0·52
C'nd'b'lin	f	62	41	0·04
Cooma ..	n	52	31	0
Coonab'n.	u	55	51	0·55
Cowra ..	1	[illegible]	45	0·73
Cudg'llico	f	59	36	0
Deniliq'n.	b	68	37	0·05
Dubbo ..	b	57	48	0·28
Eden	b	57	44	0·06
Euston ..	c	57	34	0
Forbes ..	f	—	44	0·28
Glen Inn's	u	47	44	1·32
Goulburn	n	51	40	0·22
Grafton ..	r	56	52	0·35
Gulgong ..	u	55	38	0·40
Gunned'h	c	59	53	0·47
Hay	n	60	39	0
Inverell ..	r	56	48	1·59
Kiandra ..	s	41	32	0
Lismore ..	r	59	55	0·35
Maitland ..	u	59	50	0·10
M'n'ng H.	b	59	50	0·37
Marsdens.	f	57	43	0·20
Menindie.	b	62	44	0
Molong ..	o	45	40	0
M'r'ng'r'll	g	55	45	0·53
Moree ..	r	57	50	0·59
Moruya ..	b	56	44	0·11
Moss Vale	h	50	43	0·18
Mt. Hope	b	72	46	0
M. Vict'ria	u	51	40	0·07
[illegible]dgee ..	b	57	40	0·51
[illegible]r'mb'h	c	49	40	0·40
[illegible]rr'r'ndi	o	56	51	0·52
[illegible]us'lbr'k	c	60	46	0·05
[illegible]rabri	g	60	51	0·55
[illegible]wcastle	g	57	51	0·04
[illegible]range ..	g	50	43	0·86
[illegible]icton ..	c	55	41	0
[illegible] M'q'rie	g	62	52	0·12
[illegible]ph'n	g	59	47	0·11
Q'nbeyan	b	57	36	0·68
Quirindi	r	66	50	0·34
Singleton	u	56	51	0·20
SYDNEY ..	c	59	49	0·15
Taralga ..	o	51	40	0·33
Taree	g	59	51	0·22
T'nt'rfield	r	53	48	0·96
Wagga ..	r	50	40	0·23
Walcha ..	u	50	40	0·51
Walgett	f	60	53	0·31
Warrah ..	g	58	—	0·54
W'ntw'rth	b	63	39	0
W'll'ng'ng	c	62	48	0·02
Young ..	g	53	43	0·73

SYDNEY OBSERVATORY.

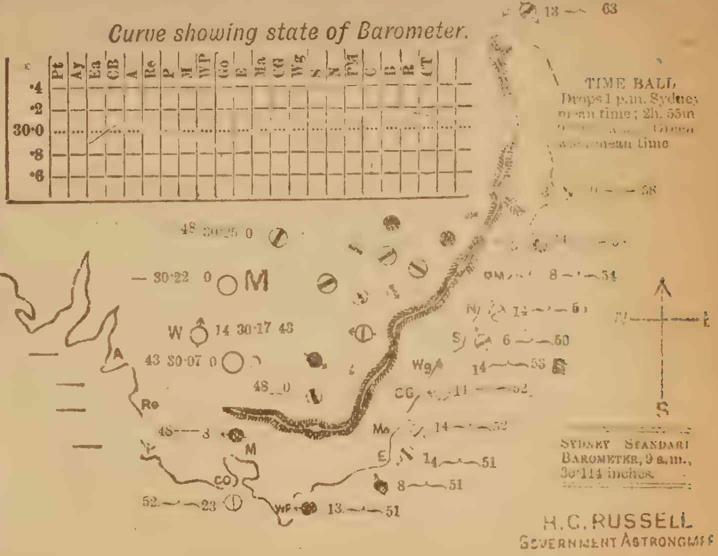
LATITUDE 33° 51′ 41″ S. LONGITUDE 10h. 4m. 50·81s. E.

MAGNETIC VARIATION, 9° 35′ 37″ E.

Average Annual Rainfall for 28 years..............49·89
Average for 29 years from Jan. 1 to June 30 1897 .. 30·068
Total Rainfall from Jan. 1, to JULY 2 1897 ...... 35·588

Barometer reduced to 32° Fah. and Mean Sea Level

Fine, wind N. Cloudy, wind E. T. storm, wind S. Rain, wind W. If it is CALM, the symbol used without the arrow. Smooth sea. Heavy sea. Very heavy sea.



NOTES EXPLANATORY OF MAP.

In the list of stations the column headed W.T. gives the state of the weather at 9 a.m., b standing for blue sky; c, detached clouds; d, drizzling rain; f, fog; g, gloomy; h, hazy; m, misty; n, frosty; o, overcast; p, passing showers; r, rain; s, snow; t, thunder; u, threatening. The next column, M'x gives the maximum temperature for previous 24 hours. M'n the corresponding minimum temperature; r'n, the rain for the previous 24 hours. The symbols used in the map are explained on the margin. At each coast station the wind-symbol is placed like a vane pointing to the direction from which the wind is coming. A clear circle with it means fine weather; a circle with bar, cloudy weather; and a black spot, raining. Next to this symbol are placed figures denoting the number of miles the wind is moving per hour; next, a symbol showing the state of the sea; and, lastly, figures denoting the shade temperature at 9 a.m. The barometer curve shows the state of barometers round the coast from Perth to Cooktown:—Pt, Perth; Ay, Albany; Ea, Eucla; CB, Cape Borda; A, Adelaide; Re, Robe; P, Portland; M, Melbourne; W P, Wilson's Promontory; Go, Gabo; E, Eden; Ma, Moruya; C G Jervis Bay; Wg, Wollongong; S, Sydney; N, Newcastle; P M, Port Macquarie; C, Clarence River; B, Brisbane; R, Rockhampton; Ct, Cooktown. Inland the state of barometer is given in figures at Albury, Deniliquin, Wentworth Menindie, Bourke, and Alice Springs. The barometer curve enables one at a glance to trace the depressions, beginning with Western Australia, and passing along eastwards; northerly winds preceding them, and southerly following.

The rainfall on Sundays or holidays, when this map is not published, is in all cases included in the quantities shown by the next following map.

9 A.M. OBSERVATIONS.

Western Australia.—At Esperance Bay, light rain, with light N.E. winds, fallen barometer, and smooth sea. Barometer 29·75; and temperature, 50·.

South Australia.—Generally overcast and unsettled; with light rain south of Beltana; light N. to N.W. inland, S.E. to N.E. in south parts; falling barometers and smooth sea. Rainfall: Light and scattered, heaviest on ranges and coast districts; Normanville, 2·16; Willunga, 1·73; Goolwa, 1·74; Crafers, 1·40; Milang, 1·35; and other stations varying from 0·01 to 1·00 inches. Extremes of barometers and temperature: Farina, 30·23; Eucla, 29·88 and 54·; Cape Northumberland, 47·; no reports from Northern Territory.

Victoria.—Generally overcast, gloomy, or threatening, with light rains falling at places on the coast; light to fresh westerly winds, falling barometers, and moderate sea. Rainfall: Cape Otway, 1·46; Portland, 0·36; Melbourne, 0·57; Cape Schanck, 0·54; and smaller quantities at other places. Extremes of barometers and temperature: Hamilton, 30·15; Wilson's Promontory, 29·86; Horsham, 57·; and Omeo, 45·.

Tasmania.—At Circular Head overcast and gloomy, with fresh S.W. wind and rough sea. Barometer 30·09, temperature 50·, and rainfall 0·03 inch. No reports from other parts.

New Zealand.—Generally fine, with S.E. winds, and barometers at 30·5, except at Gisborne, where barometer is 30·7, and at Bluff the wind is N.W.

New South Wales.—Fine in S.W. and W. parts, raining steadily in extreme N.E. parts, over the remainder of the colony overcast, gloomy, or foggy, but clearing along the coast, snowing at Kiandra, measure of rain and thawed snow being 3·22 inches. Winds, generally light, from N. to W. and calms. Sea, smooth. During the previous 24 hours rain fell throughout the colony except on the Lower Darling. The heaviest falls occurred along the ranges and in N.E. parts. Extra stations—Rainfall: Gabo Island, 0·04; Hill End, 0·48; Tamworth, 0·42; and Tumut, for last 48 hours, 1·66 inches. Extremes of barometers and temperature: Walgett, 30·25; Gabo Island, 29·89; Clarence, 58·; and Cooma, 33·. For further particulars see map.

Queensland.—Fine in north, cloudy and unsettled in south, with light showers at places; light N.E. to S.E. winds, fallen barometers, and smooth sea. Rainfall: Blackall, 0·86; Cape Moreton, 0.60; Brisbane, 0·15; Rockhampton, 0·14; and Mackay 0·10 inches. Extremes of barometers and temperature: Brisbane, 30·19 and 58·; Cooktown, 30·11 and 76·.

3 P.M. OBSERVATIONS.

Victoria.—Portland, S.S.W., 18, fine and clear, smooth sea, temperature 55·; Cape Otway, W., 34, showery and squally, slight sea, temperature 52·; Wilson's Promontory, N.W., 23, showery and dull, moderate sea, temperature 51·.

New South Wales.—Menindie, calm, fine, but cloudy, temperature 58·; Wentworth, N., 14, fine, temperature 54·; Deniliquin, calm, fine, temperature 61·; Eden, N.E., 14, cloudy, moderate sea, temperature 58·; Moruya, N.W, 14, fine, smooth sea, temperature 61·; Cape St. George, N.W., 28, fine, temperature 61·; Newcastle, W., 8, fine, temperature 66·; Port Macquarie, N.W., 14, fine, smooth sea, temperature 63·; Clarence River, W., 8, raining, smooth sea, temperature 64; Walgett, dull, like rain, temperature 63·; Dubbo, calm, fine, but cloudy, temperature 61·; Goulburn, N.W., 8, dull, temperature 62·.

Queensland.—Mackay, calm, fine; Rockhampton, E.N.E., 13, like rain, temperature 73·; Roma, calm, raining, temperature 68·; Cape Moreton, 18, cloudy, temperature 68·.

HEIGHT OF RIVERS ABOVE SUMMER LEVEL.

Macintyre: At Mungindi, 3 feet 6 inches. Barwon: At Mogil Mogil, 3 feet; Walgett, low. Namoi: At Walgett, 7 feet. Culgoa: At Goodooga, low. Darling: At Brewarrina, low; at Bourke, low; at Louth, 2 feet 0 inches; at Wilcannia, 7 feet; at Menindie, 15 feet; at Pooncarie, 21 feet 3 inches; at Wentworth, 14 feet. Murrumbidgee: At Gundagai, 10 feet 3 inches; at Wagga, 13 feet; at Hay, 9 feet 6 inches; at Balranald, 11 feet 1 inch. Murray: At Albury, 9 feet 2 inches; at Euston, 10 feet 3 inches.

ASTRONOMICAL MEMORANDA FOR JULY 4.

Sun rises at 7.7, sets at 5.1; Moon rises at 4.25 p.m., sets at 5.15 a.m.; Mercury, 8.40 a.m., 7.2 p.m.; Venus, 9.49 a.m., 8.35 p.m.; Mars, 5.51 a.m., 3.10 p.m.; Jupiter, 12.24 p.m., 1.18 a.m.; Saturn, 8.1 a.m., 6.2 p.m. Full moon, 5th; new moon, 21st.

High water at Fort Denison: 7.18 a.m., 7.42 p.m.

H. A. LENEHAN,
Acting Government Astronomer.

Armidale	u	[illegible]	[illegible]	[illegible]
Balranald	g	74	36	0·05
Bathurst	u	61	31	0·26
Bendem'r	r	[illegible]	50	0·48
Bodalla	r	[illegible]	41	0
Bourke	r	62	47	0·40
[illegible]	r		47	0·25
[illegible]d'n H.	c	66	52	0·04
C. St. Geo.	r	63	50	[illegible]
[illegible]	g	[illegible]	[illegible]	[illegible]
Casino ..	r	[illegible]	[illegible]	[illegible]
Cassilis ..	g	55	47	1·17
Clarence ..	o	66	[illegible]	0
C'nd'b'lin	r	62	46	0·09
Cooma ..	r	[illegible]	[illegible]	0·09
Coonab'n.	r	61	45	2·28
Cowra ..	r	60	43	0·07
Cudg'llico	u	61	47	0
Deniliq'n.	g	66	45	0·05
Dubbo ..	o	65	41	0·41
Eden	u	56	44	0
Euston ..	g	77	[illegible]	0·13
Forbes ..	r	[illegible]	44	0·38
Glen Inn's	r	52	42	0·32
Goulburn	r	52	41	0·22

Grafton .	u	69	67	0·07
Gulgong .	u	58	33	1·80
Gunned'h	c	66	49	0·70
Hay	r	63	48	0·01
Inverell..	r	60	49	0·47
Kiandra..	r	33	28	1·35
Lismore .	u	70	56	0·01
Maitland.	r	62	47	0·58
M'n'ng H.	c	64	52	0·09
Marsdens.	r	60	43	0·34
Menindie.	g	68	51	1·30
Molong ..	o	53	32	0
M'r'ng'r'll	r	54	41	0·37
Moree ..	r	68	55	0·46
Moruya..	g	68	66	0·04
Moss Vale	r	52	44	0·36
Mt. Hope	c	70	40	0·20

M. Vict'ria	r	54	35	0·54
Mudgee..	u	65	29	1·35
M'rr'mb'h	c	63	38	0·15
M'rr'r'ndi	r	60	48	2·30
Mus'lbr'k	r	64	50	1·67
Narrabri	r	65	54	0·53
Newcastle	r	64	50	0·41
Orange ..	r	52	42	0·26
Picton ..	r	53	43	0·48
P. M'q'rie	u	67	54	0
P. St'ph'n	r	62	44	0·29
Q'nbeyan	r	69	37	0·10
Quirindi	r	67	49	0·91
Singleton	r	62	46	1·70
SYDNEY ..	r	61	51	0·45
Taralga ..	c	69	38	0·50
Taree	g	61	52	0·19
T'nt'rfield	u	64	46	0·30
Wagga ..	r	59	34	0·12
Walcha ..	r	58	38	0·24
Walgett	u	66	57	0·33
Warrah ..	r	65	—	2·02
W'ntw'rth	g	57	46	0·20
W'll'ng'ng	r	67	49	0
Young ..	r	73	37	0·17

LATITUDE 33° 51' 41" S. LONGITUDE 10h. 4m. 50·81s. E.
MAGNETIC VARIATION, 9° 35' 37" E.

Average Annual Rainfall for 28 years .. .. .. 49·489
Average for 29 years from Jan. 1 to June 30 1887 .. 30·968
● Total Rainfall from Jan. 1, to JULY 4 1887 ...... 36·035
- Barometers corrected to 32° Fah. and Mean Sea Level

wind N. wind E.
T. storm, wind S. Rain, wind W.
If it is CALM, the symbol used without the arrow
Smooth sea.
Heavy sea.
Very heavy sea.

NOTES EXPLANATORY OF MAP.

In the list of stations the column headed W. gives the state of the weather at 9 a.m., b standing for blue sky; c, detached clouds; d, drizzling rain; f, fog; g, gloomy; h, hazy; m, misty; n, frosty; o, overcast; p, passing showers; r, rain; s, snow; t, thunder; u, threatening. The next column, Mx gives the maximum temperature for previous 24 hours. Mn the corresponding minimum temperature; R n, the rain for the previous 24 hours. The symbols used in the map are explained on the margin. At each coast station the wind symbol is placed with vane pointing to the direction from which the wind is coming. A clear circle with it means fine weather; a circle with bar, cloudy weather; and a black spot, raining. Next to this symbol are placed figures denoting the number of miles the wind is moving per hour, next, a symbol showing the state of the sea; and, lastly, figures denoting the shade temperature at 9 a.m. The barometer curve shows the state of barometers round the coast from Perth to Cooktown:—Pt, Perth; Ay, Albany; Es, Eucla; CB, Cape Borda; A, Adelaide; Re, Robe; P, Portland; M, Melbourne; WP, Wilson's Promontory; Go, Gabo; E, Eden; Ma, Moruya; CG Jervis Bay; Wg, Wollongong; S, Sydney; N, Newcastle; PM, Port Macquarie; C, Clarence River; B, Brisbane; R, Rockhampton; Ct, Cooktown. Inland the state of barometer is given in figures at Albury, Deniliquin, Wentworth, Menindie, Bourke, and Alice Springs. The barometer curve enables one at a glance to trace the depressions, beginning with Western Australia, and passing along eastwards; northerly winds preceding them, and southerly following.

The rainfall on Sundays or holidays, when this map is not published, is in all cases included in the quantities shown by the next following map.

9 A.M. OBSERVATIONS.

Western Australia.—With the exception of Perth, fine weather is reported throughout the colony, with light E. to S.E. winds. Perth reports dull threatening weather, with N. winds. Extremes of barometers and temperature: Geraldton, 30·27 and 60°; Albany, 30·16; Carnarvon, 72·0.

South Australia.—Generally more or less cloudy south of Powell Creek. Showery in parts, light S.W. to S.E., and calms, with rain recorded S. of the Peake, heavier N. of Adelaide, scattered in south, 0·30 inch to 0·90 inch N. of Burra. Extremes of barometers and temperature: Alice Springs, 30·24; Adelaide, 30·03 and 48°; Port Darwin, 79°.

Victoria.—With the exception of the N.W. parts, the whole colony has been enveloped by a dense fog, with misty rains on the coast. Winds light inland, fresh S.E. to N.E. on coast. Rain is reported from Cape Northumberland 0·35 inch, Cape Otway 0·08 inch. Extremes of barometers and temperature: Cape Otway 29·98, Cape Schanck 29·88, Portland 53°, Omeo 42°.

Tasmania.—Fine, but cloudy generally, with light S.E. winds in N. parts. Calms prevailing in south parts. During previous 24 hours rain was reported from Circular Head 0·02 inch, and Hobart 0·05 inch. Extremes of barometers and temperature: Low Head 29·91 and 41°, Hobart 29·86, Circular Heads, 47°.

New Zealand.—Fine, but cloudy generally, with N. winds in central and southern parts, calms prevailing in extreme N. parts. Barometers: Extreme north 30·50, central 30·30, south 30·2.

New South Wales.—Cloudy, unsettled, and raining throughout the colony; winds light to moderate, from all points of compass, but principally from N.W.; sea smooth to moderate. The heaviest rains have fallen on and about the range lying between the Macleay and Hunter Rivers; Coonabarabran, 2·28; Murrurundi, 2·30; Warrah, 2·02; while stations scattered all over the colony report between an inch and an inch a-half. Extra stations: Brewarrina, max. 69°, min. 42°, rain ·58 inch; Tamworth, max. 65·5, min. 48°, rain 0·50 inch; Hill End, 0·05 inch; Wilcannia, 0·28; and Camden, 0·45 inch. Extremes of barometers and temperature: Wentworth, 29·99; Sydney, 29·82; Wagga, 64°; Cooma, 38°. For further particulars see map.

Queensland.—Fine generally, except in S.E. parts, where rain is falling, with light N.W. winds. Roma reports 0·29 inch; Cape Moreton, 0·10; Brisbane, 0·07; winds S.E. on coast, N.W. inland. Extremes of barometers and temperature: Townsville, 30·10 and 69°; Roma, 29·99 and 59°.

3 P.M. OBSERVATIONS.

Victoria.—Portland, S.S.E., 28, cloudy, smooth sea, temperature 53°; Cape Otway, S., 34, squally and showery, slight sea, temperature 53°. Melbourne, S.S.W., 8, overcast and gloomy, temperature 50°; Cape Schanck, S., 13, overcast and misty, moderate sea, temperature 55°; Wilson's Promontory, S.S.W., 8, overcast and raining, slight sea, temperature 51°; Lakes Entrance, calm, overcast and raining, temperature 51°.

New South Wales.—Menindie, S.W., 28, overcast and dull, temperature 59°; Wentworth, S., 14, dull, temperature 49°; Deniliquin, calm, dull, temperature 58°; Eden, S.W., 14, overcast and raining, light E. sea, temperature 52°; Cape St. George, S.W., 42, showery, smooth sea, temperature 54°; Sydney, N.W., 7, overcast and misty, smooth sea, temperature 56°; Newcastle, N.N.W., 14, dull, smooth sea, temperature 59°; Port Macquarie, N.N.W., 42, overcast and dull, moderate sea, temperature 66°; Clarence River, N.E., 42, dull, smooth sea, temperature 69°; Walgett, W.N.W., 42, fine, temperature 65°; Dubbo, N.W., 28, showery, temperature 65°; Goulburn, calm, raining, temperature 60°.

Queensland.—Thargomindah, W., cloudy; Burketown, N.E., 13, fine; Normanton, N.W., 8, fine, but cloudy, temperature 84; Townsville, S.E., 13, fine, smooth sea, temperature 75; Boulia, S.W., fine; Rockhampton, W., 18, cloudy, and like rain, temperature 75°; Blackall, N.W., overcast, and like rain; Roma, calm, overcast, and light rain, temperature 60°; Cape Moreton, N.N.W., 34, overcast, temperature 68°; Brisbane, N.N.E., 8, fine, but cloudy, temperature 71°; Hughenden, S.W., cloudy and close.

HEIGHT OF RIVERS ABOVE SUMMER LEVEL.

Macintyre: At Mungindi, 4ft. Barwon: At Mogil Mogil, 3ft.; Walgett, low. Namoi: At Walgett, 6ft. Culgoa: At Goodooga, low; Darling: At Brewarrina, low; Bourke, low; Louth 2ft. 4in.; Tilpa, 2ft. 10in.; Wilcannia, 7ft. Darling: At Menindie, 17ft. 6in.; Pooncarie, 20ft. 10in.; Wentworth, 14ft. 3in. Murrumbidgee: At Gundagai, 18ft.; Wagga, 21ft.; Hay, 10ft. 10in.; Balranald, 11ft. 11in. Murray: At Albury, 11ft. 4in.; Euston, 10ft. 7in.

ASTRONOMICAL MEMORANDA FOR JULY 5.

Sun rises at 7.7, sets at 5.2; Moon, 5.20 p.m., sets at 6.15 a.m.; Mercury, 8.38 a.m., 7.3 p.m.; Venus, 9.48 a.m., 8.36 p.m.; Mars, 5.53 a.m., 3.39 p.m.; Jupiter, 12.20 p.m., 1.14 a.m.; Saturn, 7.57 a.m., 5.59 p.m. Full moon, July 5. New moon, July 21.
High water at Fort Denison: 8.6 a.m., 8.28 p.m.

H. A. LENEHAN,
Acting Government Astronomer

METEOROLOGICAL REPORTS AND MAP FOR JULY 9, 1887.

Stations.	wt	Mx	m.	Rn.
Albury ..	u	51	39	0
Armidale	n	52	30	0
Balranald	g	71	37	0
Bathurst	n	49	26	0
Bendem'r	n	52	30	0
Bodalla ..	g	37	28	0
Bourke ..	b	53	27	
Buncarra	n	—	34	0
C'md'n H.	b	63	46	0
C. St. Geo.	b	61	41	0
Carcoar ..	n	47	31	0
Casino ..	b	69	37	0
Cassilis ..	n	52	35	0
Clarence .	b	65	46	0
C'nd'b'lin	n	65	36	0
Cooma ..	n	56	27	0
Coonab'n.	n	53	26	0
Cowra ..	n	55	35	0
Cudg'llico	b	69	34	0
Deniliq'n.	u	67	36	0
Dubbo ..	f	59	28	0
Eden	b	55	50	0
Euston ..	b	61	30	0
Forbes ..	n	—	39	0
Glen Inn's	n	50	26	0
Goulburn	g	45	29	0
EUCLA				
Grafton ..	n	67	59	0
Gulgong .	n	49	24	0
Gunned'h	b	58	37	0
Hay ..	u	59	36	0
Inverell ..	n	52	30	0
Kiandra ..	c	49	24	0
Lismore .	n	53	27	0
Maitland .	n	59	40	0
M'n'ng H.	b	59	38	0
Marsdens.	n	56	33	0
Menindie.	b	57	43	0
Molong ..	n	42	25	0
M'r'ng'r'll	b	57	33	0
Moree ..	b	63	35	0
Moruya ..	b	60	37	0
Moss Vale	n	46	36	0
Mt. Hope	b	63	37	0

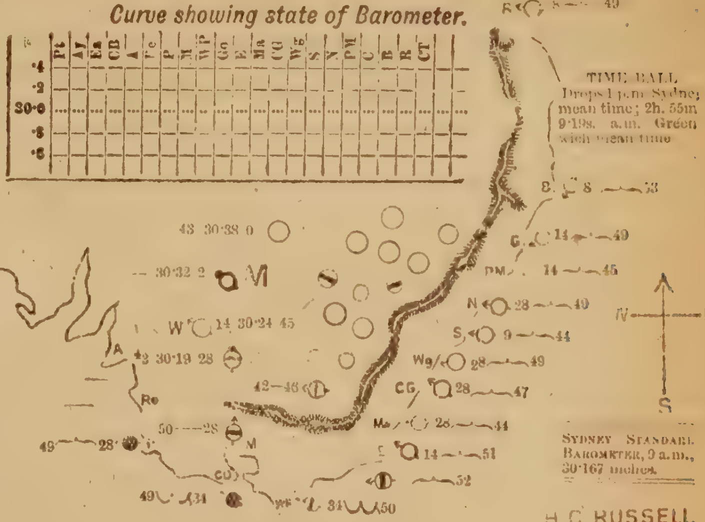
SYDNEY OBSERVATORY.

LATITUDE 33° 51' 41" S. LONGITUDE 10h. 4m. 50·0is. E.

MAGNETIC VARIATION, 9° 35' 37" E.

Average Annual Rainfall for 28 years.................40·487
Average for 29 years from Jan. 1 to June 30 1887 .. 30·968
Total Rainfall from Jan. 1, to JULY 2 1887 ...... 36·124

Barometers corrected to 32° Fah. and Mean Sea Level



Fine, wind N. Cloudy wind E
T. storm, wind S. Rain, wind W
If it is CALM, the symbol used without the arrow
Smooth sea.
Heavy sea
Very heavy sea.

TIME BALL
Drops 1 p.m. Sydney mean time; 2h. 55m 9·19s. a.m. Green wich mean time

SYDNEY STANDARD BAROMETER, 9 a.m., 30·167 inches.

H. C. RUSSELL
GOVERNMENT ASTRONOMER

M. Vict'ria	n	43	29	0
Mudgee ..	‡	55	23	0
M'rr'mb'h	b	58	34	0
M'rr'r'ndi	n	51	36	0
Mus'br'k	b	59	33	0
Narrabri	b	61	35	0
Newcastle	b	62	40	0
Orange ..	n	4[illegible]	[illegible]	0
Picton ..	n	[illegible]	[illegible]	
P. M'q'rie	b	62	38	0
P. St'ph'n	b	59	37	0
Q'nbeyan	n	51	28	0
Quirindi	b	52	38	0
Singleton	b	60	44	0
SYDNEY ..	n	57	41	0
Taralga ..	n	61	30	0
Taree	b	65	38	0
T'nt'rfield	—	—	—	—
Wagga ..	b	59	32	0
Walcha ..	n	46	24	0
Walgett	b	57	36	0
Warrah ..	b	56	—	0
W'ntw'rth	b	60	37	0
W'll'ng'ng	b	62	42	0
Young ..	b	72	32	0

NOTES EXPLANATORY OF MAP.

In the list of stations the column headed W. gives the state of the weather at 9 a.m., b standing for blue sky, c, detached clouds, d, drizzling rain; f, fog; g, gloomy; h, hazy; m, misty; n, frosty; o, overcast; p, passing showers; r, rain; s, snow; t, thunder; u, threatening. The next column, M'x gives the maximum temperature for previous 24 hours. M'n the corresponding minimum temperature; Rn, the rain for the previous 24 hours. The symbols used in the map are explained on the margin. At each coast station the wind symbol is placed like a vane pointing to the direction from which the wind is coming. A clear circle with it means fine weather; a circle with bar, cloudy weather; and a black spot, raining. Next to this symbol are placed figures denoting the number of miles the wind is moving per hour; next, a symbol showing the state of the sea; and, lastly, figures denoting the shade temperature at 9 a.m. The barometer curve shows the state of barometers round the coast from Perth to Cooktown:- Pt, Perth; Ay, Albany; Ea, Eucla; CB, Cape Borda; A, Adelaide; Re, Robe; P, Portland; M, Melbourne; W P, Wilson's Promontory; Go, Gabo; E, Eden; Ma, Moruya; C G Jervis Bay; Wg, Wollongong; S, Sydney; N, Newcastle; P M, Port Macquarie; C, Clarence River; B, Brisbane; R, Rockhampton; Ct, Cooktown. Inland the state of barometer is given in figures at Albury, Deniliquin, Wentworth, Menindie, Bourke, and Alice Springs. The barometer curve enables one at a glance to trace the depressions, beginning with Western Australia, and passing along eastwards; northerly winds preceding them, and southerly following.

The rainfall on Sundays or holidays, when this map is not published, is in all cases included in the quantities shown by the next following map.

9 A.M. OBSERVATIONS.

South Australia.—Generally unsettled, raining, and showery south of Beltana; N.W. to S.W. winds, moderate to strong. Rain recorded south of Port Augusta, greatest on Mount Lofty Ranges; and in S.E., 0·05 inch to 0·45; north of Adelaide, 0·25 to 0·75 inch; in south—Crafers, 1·29 inch; Naracoorte, 0·78 inch. In Northern Territory, fine generally, with strong S.E. winds. Sea moderate on south coast. Extremes of barometers and temperature: Alice Springs, 30·49 and 47·0; Port Darwin, 60°; Cape Borda, 30·12.

Western Australia.—Fine throughout, and with fresh to strong E. to N.E. wind on west coast, with W. winds and calms on south coast. Esperance Bay and Albany report rain to have fallen during the previous 24 hours—the former 0·14 inch, and the latter 0·10 inch. Sea generally smooth, but rough on north-west and south coasts. Extremes of barometers and temperature: Albany, 30·51; Cossack, 30·18; Ashburton, 75°; Perth, 45°.

Victoria.—Cloudy and generally unsettled in eastern parts, raining heavily in western; winds easterly moderate inland, strong to squalls on coast; sea rough. Portland, rain, 0.33; Cape Otway, 0·29; Melbourne, 0·03; Hamilton, 0·56; and Horsham, 0·04 inch. Extremes of barometers and temperature: Echuca, 30·13; Portland, 29·86; Horsham, 56°; Esperance Bay, 47°.

Tasmania.—Raining in north parts, cloudy and unsettled in central, fine but cloudy in southern. Low Head reports 0·23 inch of rain; sea smooth to slight; winds light S.E. in north, and N. to N.W. in south. Extremes of barometers and temperature: Low Head, 29·81 and 46°; Hobart, 29·73; Southport, 41°.

New Zealand.—Raining generally; winds S.W. in extreme north and south parts, and S. in central; sea rough on west coast. Barometers: In N., 29·8; and in central and south, 29·6.

New South Wales.—Fine generally, but cloudy at several places in south; frosty along the range and at places on the coast; thick fogs reported from Dubbo and Mudgee. Winds, fresh on coast, principally W. to S. W. Calms prevail generally inland. During previous 24 hours no rain fell. Sea smooth to moderate. Extra stations: Brewarrina, max., 55°, min., 32°; Tamworth, max. 55°, min. 32°. Heavy frost in Sydney and suburbs this morning. Minimum temperature on grass, 29·1, at Observatory. Extremes of barometers and temperature: Walgett, 30·38; Eden, 30·00; Clarence Heads, 49°; Kiandra, 30°. (For further particulars see map.)

Queensland.—Generally fine throughout, with heavy frosts at places in south, and heavy dew at Mackay. Winds, generally strong, S.E. in north, but S. to S.W. in south. Sea smooth. Extremes of barometers and temperature: Roma, 30·29 and 44°; Normanton, 30·08; Townsville, 63°.

3 P.M. OBSERVATIONS.

Victoria.—Portland, S.W., 28, cloudy and showery, smooth sea, temperature 52°; Cape Otway, W., 40, gloomy, and light rain, rough sea, temperature 49°; Wilson's Promontory, W.N.W., 28, cloudy and squally, with hail, moderate sea, temperature, 47°.

New South Wales.—Menindie, S.W., cloudy, temperature 58°; Wentworth, W., 28, raining, temperature 58°; Deniliquin, calm, cloudy, temperature 60; Eden, S.W., 14, fine, moderate sea, temperature 53°; Moruya, N.W., 28, fine, smooth sea, temperature 60°; Cape St. George, W., 14, fine, smooth sea, temperature 58°; Sydney, W., 8, fine; Newcastle, W., 14, fine, smooth sea, temperature 58°; Port Macquarie, calm, fine, smooth sea, temperature 62°; Walgett, N.W., fine, temperature 61°; Dubbo, W., 14, fine, temperature 54°; Goulburn, N.W., 8, dull.

Queensland.—Blackall, clear, fine, and cool; Cooktown, S.E., 8, gloomy, moderate sea, temperature 70°; Townsville, S.E., 23, fine, smooth sea, temperature 68°; Boulia, S.E., 34, fine and cold; Rockhampton, S.E., 8, fine and clear, temperature 63°; Roma, S., 8, fine and clear, temperature 58°; Cape Moreton, S., 18, fine, temperature 64°; Hughenden, S.E., 13, fine and cool.

ASTRONOMICAL MEMORANDA FOR JULY 11.

Sun rises at 7.6, sets at 5.5; Moon, 10.53 p.m., 10.32 a.m.; Mercury, 8.21 a.m., 6.58 p.m.; Venus, 9.39 a.m., 8.11 p.m.; Mars, 5.18 a.m., 3.32 p.m.; Jupiter, 11.57 a.m., 12.51 a.m.; Saturn, 7.36 a.m., 5.39 p.m. Full moon, July 5. New moon, July 21.

High water at Fort Denison: 11.56 a.m., — p.m.

H. A. LENEHAN,
Acting Government Astronomer.

METEOROLOGICAL REPORTS AND MAP FOR JULY 16, 1887.

Stations.	wt	Mx	Mn	Rn
Albury ..	u	53	42	0·15
Armidale	b	45	37	0
Balranald	u	72	35	0
Bathurst	f	56	31	0
Bendem'r	f	61	37	0
Bodalla ..	u	64	34	0
Bourke ..	b	71	37	0
Buncarra	f	—	39	0
C'md'n H.	b	67	51	0
C. St. Geo.	c	59	50	0
Carcoar ..	g	52	33	0
Casino ..	n	75	46	0
Cassilis ..	f	52	36	0
Clarence .	c	73	53	0·02
C'nd'b'lin	c	65	46	0
Cooma ..		51	36	0
Coonab'n.	g	—	—	
Cowra ..	c	54	37	0
Cudg'llico	c	64	43	0
Deniliq'n.	b	63	39	0
Dubbo ..	r	65	37	0
Eden	b	57	48	0·03
Euston ..	u	74	41	0
Forbes ..	n	—	44	0
Glen Inn's	b	62	34	0
Goulburn	b	47	40	0

EUCLA

Stations.	wt	Mx	Mn	Rn
Grafton ..	f	65	56	0
Gulgong .	f	50	27	0
Gunned'h	c	63	40	0
Hay	b	62	43	0
Inverell ..	c	62	36	0
Kiandra ..	r	51	32	0·35
Lismore .	b	78	51	0
Maitland .	b	62	45	0
M'n'ng H.	b	63	47	0
Marsdens.	r	54	43	0
Menindie.	b	61	47	0
Molong ..	b	39	33	0
M'r'ng'r'll	c	58	42	0
Moree ..	g	78	42	0
Moruya ..	g	63	45	0·03
Moss Vale	b	52	43	0
Mt. Hope	u	62	52	0

Stations.	wt	Mx	Mn	Rn
M. Vict'ria	b	53	36	0
Mudgee ..	f	66	28	0
M'rr'mb'h	u	55	37	0
M'rr'r'ndi	b	59	42	0
Mus'lbr'k	b	61	31	0
Narrabri	g	67	34	0
Newcastle	b	65	47	0
Orange ..	g	54	38	0
Picton ..	g	61	35	0
P. M'q'rie	b	65	46	0
P. St'ph'n	b	41	39	0
Q'nbeyan	c	54	32	0
Quirindi	—	—	—	0
Singleton	b	—	45	0
SYDNEY ..	b	62	49	0
Taralga ..	b	60	30	0
Taree	b	62	46	0
T'nt'rfield	b	66	35	0
Wagga ..	r	54	30	0·03
Walcha ..	r	57	29	0
Walgett	b	—	—	-
Warrah ..	b	—	—	-
W'ntw'rth	b	64	44	0
W'll'ng'ng	g	67	52	0
Young ..	u	65	39	0

SYDNEY OBSERVATORY.

LATITUDE 33° 51' 41" S. LONGITUDE 10h. 4m. 50·51s. E.

MAGNETIC VARIATION, 9° 35' 37" E.

Average Annual Rainfall for 28 years........ 49·489

Average for 29 years from Jan. 1 to June 30 1887 .. 30·968

Total Rainfall from Jan. 1, to JULY 16 1887 ....

Barometers corrected to 32° Fah. and Mean Sea Level

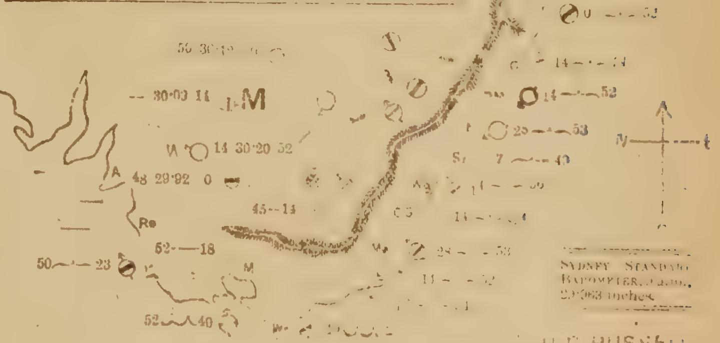
T. storm, wind S. Rain, wind W.

If it is CALM, the symbol used without the arrow

Heavy sea

Very heavy sea.

Curve showing state of Barometer.



H. C. RUSSELL,
Government Astronomer.

NOTES EXPLANATORY OF MAP.

In the list of stations the column headed Wt. gives the state of the weather at 9 a.m., b standing for blue sky; c, detached clouds; d, drizzling rain; f, fog; g, gloomy; h, hazy; m, misty; n, frosty; o, overcast; p, passing showers; r, rain; s, snow; t, thunder; u, threatening. The next column, Mx gives the maximum temperature for previous 24 hours. Mn the corresponding minimum temperature. Rn, the rain for the previous 24 hours. The symbols used in the map are explained on the margin. At each coast station the wind symbol is placed like a vane pointing to the direction from which the wind is coming. A clear circle with it means fine weather; a circle with bar, cloudy weather; and a black spot, raining. Next to the symbol are placed figures denoting the number of miles the wind is moving per hour; next, a symbol showing the state of the sea; and, lastly, figures denoting the shade temperature at 9 a.m. The barometer curve shows the state of barometers round the coast from Perth to Cooktown:—Pt, Perth; Ay, Albany; Ls, Lucia; CB, Cape Borda; A, Adelaide; Re, Robe; P, Portland; M, Melbourne; WP, Wilson's Promontory; Go, Gabo; E, Eden; Ma, Moruya; CG, Jervis Bay; Wg, Wollongong; S, Sydney; N, Newcastle; PM, Port Macquarie; C, Clarence River; B, Brisbane; R, Rockhampton; Ct, Cooktown. Inland the state of barometer is given in figures at Albury, Deniliquin, Wentworth, Menindie, Bourke, and Alice Springs. The barometer curve enables one at a glance to trace the depressions, beginning with Western Australia, and passing along eastwards; northerly winds preceding them, and southerly following.

The rainfall on Sundays or holidays, when this map is not published, is in all cases included in the quantities shown by the next following map.

9 A.M. OBSERVATIONS.

Western Australia.—Fine on W. coast and in S.E. parts, but threatening and raining in S.W.; winds fresh to strong easterly on W. coast, in south fresh westerly to N.W. prevail; sea generally smooth, but rough on extreme N.W. coast. Extremes of barometers and temperature: Carnarvon, 30·37 and 74°; Albany, 30·05; Esperance Bay, 49°.

South Australia.—Generally overcast and unsettled, with rain on parts of coast, and stormy in S.E.; N.W. to W. winds, fresh to strong; light rain recorded on coast and ranges, Strathalbyn, 0·20 inch; sea rough on south coast. Extremes of barometers and temperature: Alice Springs, 30·29, and Robe, 29·68; Port Darwin, 70; Cape Borda, 56°.

Victoria.—Cloudy and generally unsettled; raining at places on south coast. Winds N. to N.W., very strong to fierce squalls on coast, fresh inland. During previous 24 hours 0·18 inch of rain fell at Cape Shanck; 0·11 inch at Ballarat; Hamilton, 0·09 inch; Melbourne, 0·03 inch; and Lake Entrance, 0·01 inch. Sea generally rough. Extremes of barometers and temperature: Omeo, 29·81; Portland, 29·58; Horsham, 56°; Ballarat, 46°.

Tasmania.—Fine but cloudy in south, with calm and sharp frosts. Raining in north, with fresh northerly and westerly winds during previous 24 hours. Very heavy rains fell in north of island, 0·87 inch at Circular Head, and 0·80 at Low Head. Extremes of barometers and temperature: Low Head, 29·62; Southport 29·49 and 36°; Circular Head, 51°.

New Zealand.—Calm and cloudy in north; calm and fine in Straits; fine with S.W. winds in extreme south. Barometers: 29·90 in north, 29·70 central, and 29·70 in south.

New South Wales.—Cloudy, threatening, and generally unsettled, with rain in S.E. parts and in New England districts, fine at places on coast; in S.W. parts of the colony heavy fogs and frosts at scattered places on the range; winds, strong S.W. on coast; light S.E. to W. inland. During previous 24 hours light showers fell in S.E. parts and between Tweed and Clarence rivers. Sea smooth to moderate. Extra stations: Brewarrina, max. 68°, min. 40°; Tamworth, max. 65°, min. 36°, with dense fog. Extremes of barometers and temperature: Hay, 30·16; Eden, 29·82; Wollongong, 56°; Bathurst, 33°. For further particulars see map.

Queensland.—Fine generally, but cloudy and foggy at places on the coast. Brisbane reported 0·01 inch of rain, and very heavy dew on coast and in S.E. parts; hazy in north; wind generally light, S.E. in north to W. and N.E. in south. Sea smooth in south to moderate in north. Extremes of barometers and temperature: Normanton, 30·20; Brisbane, 30·20 and 52°; Cooktown, 75.

3 P.M. OBSERVATIONS.

New South Wales.—Menindie, W., fine, temperature 60°; Wentworth, W., 14, fine, temperature 58°; Deniliquin, N.W., fine, temperature 62°; Eden, calm, cloudy, smooth sea, temperature 57°; Moruya, N.W., 8, fine, smooth sea, temperature 65°; Cape St. George, S.W., 28, cloudy, smooth sea, temperature 59°; Sydney, W., 28, fine, smooth sea; Newcastle, W., 11, fine, smooth sea, temperature 62°; Port Macquarie, N.E., 14, fine, smooth sea, temperature 67°; Clarence River, N.W. 14, fine, smooth sea, temperature 88°; Walgett, E. cloudy, temperature 65°; Goulburn, W., dull.

Queensland.—Burketown, S.S.E., fine and close; Blackall, N.W., 13, fine, clear, and cool; Townsville, calm, fine, and clear, smooth sea, temperature 73°; Mackay, S.W., 13, cloudy and fine; Hughenden, calm, fine, and hot; Rockhampton, fine and clear, temperature 70°; Roma, S.W., 13, fine, partly cloudy, temperature 72°.

HEIGHT OF RIVERS ABOVE SUMMER LEVEL.

Macintyre: At Mungindi (rising), 11ft. Barwon: At Mogil Mogil (rising), 8ft. 6in.; Walgett (rising), 11ft. Namoi: At Walgett (rising), 18ft. Culgoa: At Goodooga, low. Darling: At Brewarrina (rising), 4ft. 2in.; Bourke (rising), 7ft. 5in.; Tilpa (rising), 4ft. 4in.; Wilcannia, rising), 9ft. 3in.; Menindie, 15ft. 5in.; Pooncarie 17ft. 5in.; Wentworth, 13ft. 9in. Murrumbidgee: At Gundagai, (stationary), 7ft. 10in.; Wagga, 10ft. 8in.; Hay (rising), 15ft.; Balranald, 13ft. 4in. Murray: At Albury, 8ft. 6in.; Euston, 11ft. 10in.

ASTRONOMICAL MEMORANDA FOR JULY 18.

Sun rises at 7.3, sets at 5.9; Moon, 4.22 a.m., 2.38 p.m.; Mercury, 7.51 a.m., 6.37 p.m.; Venus, 9.27 a.m., 8.46 p.m.; Mars, 5.41 a.m., 3.25 p.m.; Jupiter, 11.33 a.m., 12.28 a.m.; Saturn, 7.8 a.m., 5.12 p.m. Full moon, July 5. New moon, July 21.

High water at Fort Denison, July 18: 5.52 a.m., 6.23 p.m.

H. A. LENEHAN,
Acting Government Astronomer.

METEOROLOGICAL REPORTS AND MAP FOR JULY 22, 1887.

Stations.				
Albury ..	u	56	45	0
Armidale	b	45	34	0
Balranald	b	69	33	0
Bathurst	f	56	30	0
Bendem'r	n	52	26	0
Bodalla ..	b	66	32	0
Bourke ..	b	71	44	0
Buncarra	n	—	34	0
C'md'n H.	b	63	42	0
C. St. Geo.	b	66	49	0
Carcoar ..	g	53	34	0
Casino ..	–	–	–	–
Cassilis ..	c	54	34	0
Clarence .	b	71	50	[illegible]
C'nd'b'lin	b	62	46	0
Cooma ..	c	67	38	0
Coonab'n.	n	64	26	0
Cowra ..	b	55	40	[illegible]
Cudg'llico	b	73	39	[illegible]
Deniliq'n.	b	69	39	[illegible]
Dubbo ..	b	61	29	[illegible]
Eden	b	57	43	[illegible]
Eus'on ..	b	70	34	[illegible]
Forbes ..	b	—	41	0
Glen Inn's	n	61	31	0
Goulburn	b	59	37	0
0——51 EUCLA				
Grafton ..	b	82	41	0
Gulgong .	u	55	28	0
Gunned'h	b	58	34	0
Hay ..	h	63	38	0
Inverell ..	c	53	30	0
Kiandra ..	s	45	32	0·32
Lismore .	b	81	46	0
Maitland.	b	61	44	0
M'n'ng H.	b	66	40	0
Marsdens.	n	61	42	0
Menindie.	b	67	44	0
Molong ..	b	46	29	0
M'r'ng'r'll	b	62	42	0
Moree ..	b	78	38	0
Moruya ..	b	67	46	0
Moss Vale	b	51	42	0
Mt. Hope	b	70	49	0
M. Vict'ria	b	50	35	0
Mudgee ..	.	67	26	0
M'rr'mb'h	c	60	37	0
M'rr'r'ndi	b	55	41	0
Mus'lbr'k	c	60	31	0
Narrabri	b	63	35	0
Newcastle	b	67	46	0
Orange ..	c	48	35	0
Picton ..	n	60	31	0
P. M'q'rie	b	66	37	0
P. St'ph'n	b	61	36	0
Q'nbeyan	b	59	40	0
Quirindi	g	65	37	0
Singleton	b	57	46	0
SYDNEY ..	b	60	48	0
Taralga ..	b	59	34	0
Taree ..	b	63	39	0
T'nt'rfield	b	60	31	0
Wagga ..	b	59	33	0
Walcha ..	n	54	21	0
Walgett	b	61	42	0
Warrah ..	n	61	—	0
W'ntw'rth	b	65	40	0
W'll'ng'ng	b	67	41	0
Young ..	g	72	35	0

SYDNEY OBSERVATORY.

LATITUDE 33° 51' 41" S. LONGITUDE 10h. 4m. 50·8s. E.

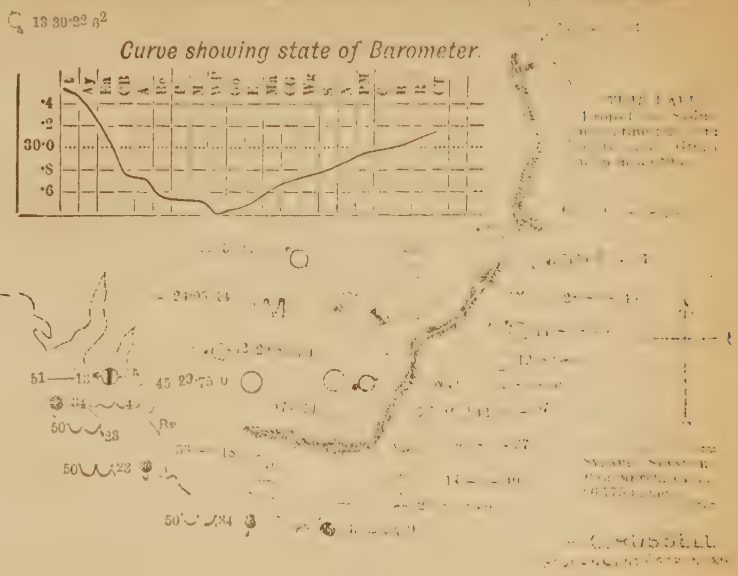
MAGNETIC VARIATION, 9° 35' 35" E.

Average Annual [illegible]

Average for 29 years from Jan. 1 to [illegible] 20·1[illegible]

Total Rainfall from Jan. 1, to JULY 22 1887 .... 39·077

Barometers corrected to [illegible] F. h. and Mean Sea Level



NOTES EXPLANATORY OF MAP.

In the list of stations the [illegible] gives the state of the weather at 9 a.m., b standing for blue sky [illegible] d, drizzling rain [illegible] fog; g, gloomy; h, hazy; m, misty; [illegible] o, overcast; p, passing showers; r, rain; s, snow; t, thunder; u, threatening. The [illegible] gives the maximum temperature for previous 24 hours. [illegible] the corresponding minimum temperature [illegible] the rain for the previous 24 hours. The symbols used on the map are explained on the margin. At each coast station the wind symbol is placed [illegible] pointing to the direction from which the wind is coming. A clear circle with it means fine weather; a circle with bar, cloudy weather; a black spot, raining. Next to this symbol are placed figures denoting the number of miles the wind is moving per hour; [illegible] a symbol showing the state of the sea; and, lastly, figures denoting the shade temperature at 9 a.m. The barometer curve shows the state of barometers round the coast from Perth to Cooktown: Pt, Perth; Ay, Albany; Ea, Eucla; CL, Cape Borda; A, Adelaide; Re, Robe; P, Portland; M, Melbourne; W P, Wilson's Promontory; Co, Gabo; E, Eden; Ma, Moruya; C, Jervis Bay; Wg, Wollongong; S, Sydney; N, Newcastle; P M, Port Macquarie; C, Clarence River; B, Brisbane; R, Rockhampton; Ck, Cooktown. Inland the state of barometer is given in figures at Albury, Deniliquin, Wentworth, Menindie, Bourke, and Alice Springs. The barometer curve enables one at a glance to trace the depressions, beginning with Western Australia, and passing along eastward, [illegible] preceding them, and southerly following.

The rainfall on Sundays or holidays, when this map is not published, is in all cases included in the quantities shown by the next following map.

9 A.M. OBSERVATIONS.

Western Australia.—Fine on west coast, with fresh S.E. winds, but unsettled and raining at places; on S. coast with fresh N.W. to S.W. winds; sea rough on south coast, and moderate on west. During previous 24 hours showers fell over southern parts of colony. Albany reports 0·30 inch; Esperance Bay, 0·33; Perth, 0·02 inch; and Geraldton, 0·07 inch. Extremes of barometers and temperature: Perth, 30·46 and 42°; Cossack, 30·08; Ashburton, 71°.

South Australia.—Generally fine, unsettled S. of about Port Augusta, with showery and light rainy weather; N.W. to S.W. winds on coast, blowing at the rate of from 23 to 31 miles per hour. During previous 24 hours the greatest fall of rain was 0·75 inch at Cape Northumberland and Mount Gambier; 0·73 inch at Tanunda; 0·34 inch at Burra; and 0·4 inch at Port Elliot; sea rough. Extremes of barometers and temperature:—Alice Springs, 30·22; Robe, 29·51; Port Darwin, 75°.

Victoria.—Raining and generally showery; fine, but unsettled, at scattered places; stormy weather still continues on S. coast, and with strong southerly winds, the average velocity being about 40 miles per hour; wind inland, strong, N.W. Sea moderate to rough. During previous 24 hours 0·47 inch of rain fell at Portland, 0·2 at Cape Otway, and 0·12 inch at Wilson's Promontory. Extremes of barometers on temperature: Echuca, 29·73; Wilson's Promontory 29·42; Horsham, 56°; Omeo, 46°.

Tasmania.—Fine generally, but showery in extreme parts of island, with winds fresh and variable; in north southerly prevail, in central parts S.W., and N.W. in south; during previous 24 hours 1·01 inch of rain fell at Low Head, 0.24 inch at Hobart, and 0.15 inch at Southport; sea rough in south.

New Zealand.—Overcast and passing showers, with strong S.W. winds in north; showery and unsettled, with S. winds, in central; fine, with northerly winds in extreme south parts. Barometers: 29·60 in north, 29·30 in central, and 29·40 in extreme south parts.

New South Wales.—Fine generally but cloudy, and threatening along the range; sharp frosts reported from scattered places, but principally from central districts; foggy at Bathurst, and snowing at Kiandra; with exception of 0·33 inch of rain at Kiandra, none fell during previous 24 hours; fresh to strong N.W. and W. and S.W. winds on coast, light variable inland, but having westward tendency; sea generally smooth, but moderate [illegible] heavy dew from Mackay; sea smooth. Extremes of barometers and temperature: Normanton 30·19, Brisbane 30°, Cooktown 75°, and Rockhampton 54°.

3 P.M. OBSERVATIONS.

Victoria.—Portland, S., 23, overcast and showery, smooth sea, temperature 48°; Cape Otway, S., 31, showery and squally, moderate sea, temperature 48°; Omeo, N.S., overcast, temperature 46°; Melbourne, S.S.W., 13, overcast and gloomy, with misty rain, temperature 47°; Cape Schanck, S., 23, overcast and showery, rough sea, temperature 55°; Wilson's Promontory, S.S.W., 23, overcast and squally, moderate sea, temperature 47°; Lakes Entrance, N.W., 13, gloomy and showery, temperature 58.

New South Wales.—Menindie, S.W., 14, fine, temperature 61°; Wentworth, N.W., 4, fine, but cloudy, temperature 55°; Deniliquin, N.W., 14, fine, temperature 60°; Eden, S.W., 14, fine, smooth sea, temperature 64°; Moruya, N.W., 42, fine, smooth sea, temperature 67°; Cape St. George, W., 43, fine, smooth sea, temperature 62°; Sydney, W., 30, fine, cool, and squally, smooth sea, temperature [illegible]; Newcastle, W., 42, fine, smooth sea, temperature 67°; Port Macquarie, W.N.W., 42, fine, smooth sea, temperature 67°; Clarence River, N.W., 14, fine, smooth sea, temperature 69°; Walgett, N.W., 14, fine, temperature 67.; Dubbo, N.W., 14, fine, temperature [illegible]9°; Goulburn, N.W., 42, fine.

Queensland.—Burketown, N.E., 42, fine; Thargomindah, N.E., fine; Hughenden, N.E., 8, cloudy, hazy, and very hot; Mackay, N. 8, fine and cool; Boulia, S.W., 23, fine and warm; Rockhampton, N., temperature 71°; Roma, W., 13, fine, temperature 56°; Cape Moreton, N.W., 18, fine and cloudy, temperature 69; Brisbane, N.W., 8, fine, but cloudy, temperature 62°, Blackall, calm, fine and warm.

HEIGHT OF RIVERS ABOVE SUMMER LEVEL.

Macintyre: At Mungindi, (stationary), 21ft. 6in. Barwon: At Mogil Mogil (rising), 21ft.; Walgett (rising), 19ft. 6in. Namoi: At Walgett (rising), 23ft. Culgoa: At Goodooga, low. Darling: At Brewarrina (rising), 9ft. 6in.; Bourke (rising), 12ft. 11in.; Louth (rising), 5ft. 4in.; Tilpa (rising), 10ft.; Wilcannia (rising), 9ft. 10in.; Menindie 13ft. 10in; Pooncarie (falling), 15ft. 9in.; Wentworth, 13ft. 9in. Murrumbidgee: At Gundagai, (rising), 16ft.; Wagga, 13ft.; Hay (over banks); Balranald, 13ft. 6in. Murray: At Albury, 10ft.; Euston, 13ft.

METEOROLOGICAL REPORTS AND MAP FOR JULY 23, 1887.

Stations.	Wt	Mx	Mn	Rn
Albury ..	b	55	38	0·31
Armidale	b	41	36	0
Balranald	b	70	34	0
Bathurst	c	58	32	0·11
Bendem'r	g	57	36	0
Bodalla ..	b	65	34	0
Bourke ..	b	74	41	0
Buncarra	b	—	36	0
C'md'n H.	b	65	45	0
C. St. Geo.	c	61	47	0
Carcoar ..	s	54	35	0·25
Casino ..	b	78	46	0
Cassilis .	c	57	44	0
Clarence .	b	72	50	[illegible]
C'nd'b'lin	c	[illegible]	45	[illegible]
Cooma ..	n	54	[illegible]	[illegible]
Coonab'n.	b	[illegible]	[illegible]	[illegible]
Cowra	u	[illegible]	[illegible]	[illegible]
Cud'lli	u	61	[illegible]	[illegible]
Deniliq'n.	b	57	[illegible]	[illegible]
Dubbo	b	61	[illegible]	[illegible]
Eden	u	63	47	0
Euston ..	b	64	34	0
Forbes ..	u	-	40	0
Glen Inn's	b	57	32	0
Goulburn	u	55	35	0·06
EUCLA				
Grafton ..	b	77	45	0
Gulgong .	u	55	31	0
Gunned'h	b	62	39	0
Hay . ..	b	61	33	0·05
Inverell ..	n	51	30	0
Kiandra ..	s	35	28	0
Lismore .	b	77	47	0
Maitland.	b	64	45	0
M'n'ng H.	b	63	45	0
Marsdens.	c	60	43	0·02
Menindie.	b	64	42	0
Molong ..	b	48	34	0·10
M'r'ng'r'll	c	63	43	0
Moree ..	b	72	41	0
Moruya ..	c	68	46	0
Moss Vale	c	53	49	0·03
Mt. Hope	c	65	46	0
M. Vict'ria	s	51	32	0
Mudgee ..	r	65	32	0·01
M'rr'mb'h	u	6[illegible]	39	0·13
M'rr'r'ndi	c	58	42	0
Mus'lbr'k	b	61	43	0
Narrabri	b	[illegible]	[illegible]	0
Newcastle	b	69	[illegible]	0
Orange ..	s	52	36	0·40
Picton ..	b	63	34	0
P. M'q'rie	b	67	43	0
P. St'ph'n	b	65	49	0
Q'nbeyan	c	59	40	0·07
Quirindi	b	65	39	0
Singleton	b	[illegible]	51	0
SYDNEY	c	64	49	0
Taralga .	u	54	30	0
Taree ..	b	70	42	0
T'nt'rfield	b	63	43	0
Wagga ..	b	60	35	0·10
Walcha ..	b	55	20	0
Walgett	b	66	45	0
Warrah ..	c	61	—	0
W'ntw'rth	b	63	36	0
W'll'ng'ng	b	67	—	0
Young ..	r	62	38	0·15

SYDNEY OBSERVATORY.

LATITUDE 33° 51' 41" S. LONGITUDE 10h. 4m. 50·31s. E.

MAGNETIC VARIATION, 9° 35' ..." E.

Average Annual Rainfall for 29 years . . . . 49·4[illegible]

Average for 29 years from Jan. 1 to June 30 1887 . [illegible]

Total Rainfall from Jan. 1, to JULY 23 1887 . . 39·077

Barometers corrected to 32° Fah. and Mean Sea Level

Fine, wind N. Cloudy, wind [illegible]. [illegible] wind S. [illegible]

If it is calm, the symbol is used without the arrow.

Smooth sea. Heavy sea. Very heavy sea.

Curve showing state of Barometer.

TIME BALL.
Drops 1 p.m. Sydney mean time; 2h. [illegible]m. [illegible] p.m. Greenwich mean time.

SYDNEY STANDARD BAROMETER, 9 a.m., 29·895 inches.

H. C. RUSSELL,
Government Astronomer.

NOTES EXPLANATORY OF MAP.

In the list of stations the column headed W. T. gives the state of the weather at 9 a.m., b standing for blue sky; c, detached clouds; d, drizzling rain; f, fog; g, gloomy; h, hazy; m, misty; n, frosty; o, overcast; p, passing showers; r, rain; s, snow; t, thunder; u, threatening. The next column, M'x gives the maximum temperature for previous 24 hours. M'n the corresponding minimum temperature; R'n, the rain for the previous 24 hours. The symbols used in the map are explained on the margin. At each coast station the wind symbol is placed as a vane pointing to the direction from which the wind is coming. A clear circle with it means fine weather; a circle with bar, cloudy weather; and a black spot, raining. Next to the symbol are placed figures denoting the number of miles the wind is moving per hour; next, a symbol showing the state of the sea; and, lastly, figures denoting the shade temperature at 9 a.m. The barometer curve shows the state of barometers round the coast from Perth to Cooktown: Pt, Perth; Ay, Albany; Ea, Eucla; CB, Cape Borda; A, Adelaide; Re, Robe; P, Portland; M, Melbourne; W P, Wilson's Promontory; Go, Gabo; E, Eden; Ma, Moruya; C G, Jervis Bay; Wg, Wollongong; S, Sydney; N, Newcastle; P M, Port Macquarie; C, Clarence River; B, Brisbane; R, Rockhampton; Ct, Cooktown. Inland the state of barometer is given in figures at Albury, Deniliquin, Wentworth, Menindie, Bourke, and Alice Springs. The barometer curve enables one at a glance to trace the depressions, beginning with Western Australia, and passing along eastwards, northerly winds preceding them, and southerly following.

The rainfall on Sundays or holidays, when this map is not published, is in all cases included in the quantities shown by the next following map.

9 A.M. OBSERVATIONS.

Western Australia.—Generally fine, with light to fresh north to east winds; rising barometers and moderate to rather rough sea. Extremes of barometers and temperature: Perth, 30·60 and 59; Cossack, 30·04 and 71°.

South Australia.—Generally cloudy and unsettled south of Port Augusta, with showery and squally weather at places; winds fresh to strong from N.W. to S.W.; sea generally rough. Rain has fallen south of Beltana, generally from 0·12 to 0·40 inch; Clare and Burra, 0·50 inch; Kingston, 0·60 inch. Extremes of barometers and temperature: Eucla, 30·47 and 51°; Cape Northumberland, 29·91 and 47°.

Victoria.—Still very unsettled generally, with showery and stormy weather on south coast; hailstorms reported in S.W. parts, with squalls; sea rough. During previous 24 hours rain fell over greater part of colony. Portland, 0·40 inch; Cape Otway, 0·50 inch; Cape Schanck, 0·32 inch; Wilson's Promontory 0·45 inch, Lake Entrance, 0·19 inch; Melbourne, 0·45 inch; Horsham, 0·20 inch; Hamilton, 0·41 inch; Omeo, 0·25 inch; and Ballarat, 0·34 inch. Winds, N.W. to S.W., very strong on coast to fresh inland. Extremes of barometers and temperature: Ballarat, 30·00; Lake Entrance 29·72; Horsham, 53°; Omeo, 35°.

Tasmania.—Fine throughout, with sharp frosts in extreme north and south parts; winds light and variable, S.E. in north, and N. to N.W. in south; sea generally smooth, but rough in south coast. Extremes of barometers and temperature: Low Head, 29·66; Southport, 29·56 and 41°; Falmouth, 39°.

New Zealand.—Fine generally; calms prevail in north. N. winds in central parts, and N.W. in south. Barometers: 29·80 in north, 29·50 in straits, and 29·30 in south.

New South Wales.—Fine in eastern and western divisions, but cloudy and unsettled in central, with showery weather at places on the range; snowing in central and southern districts, with sharp frosts during night; winds strong variable throughout the colony, but principally from the S.W. During previous 24 hours very cold showery weather prevailed over central districts. Sea smooth to moderate. Extra stations: Brewarrina, max. 60°, min. 35°; Gabo Island, max. 71°, min. 42°, rain 0·31 inch, and rough sea; Tamworth, max. 63°, min. 30°; Urana, max. 54°, min. 34°, rain 0·25, and snowing. An unusually high tide on Friday night, recording on guage 6 feet 1 inch, the highest tide recorded during last year being 5 feet 9½ inches. Extremes of barometer and temperature: Menindie 30·26; Gabo Island, 29·67; Walgett 67°. Kiandra 29°. For further particulars see map.

Queensland.—Fine throughout with strong S.E. winds in north part, and light to moderate N.W. to S.W. in south; heavy dew last night at [illegible]; sea smooth. Extremes of barometers and temperature: Townsville, 30·15; Brisbane, 29·94; Cooktown, 71°; Cape Moreton, 52°.

3 P.M. OBSERVATIONS.

Victoria. Portland, S.W., 48, cloudy, squally, and passing showers, moderate sea, temperature 50°. Cape Otway, W.S.W., 48, fierce squalls, and showery, rough sea, temperature 44°; Wilson's Promontory, S.W., 48, overcast, squally, and showery, rough sea, temperature 5[illegible]°.

New South Wales. Menindie, S.W., fine, temperature 57°; Wentworth, S.W., fine and [illegible], temperature 4[illegible]; Deniliquin, calm, dull, [illegible], temperature 5[illegible]; Eden, S.W., 28, fine, smooth sea, temperature 5[illegible]; Moruya, W., 42, fine, smooth sea, temperature 60°. Cape St. George, S.S.W., 42, fine, moderate sea, temperature 56°; Sydney, W., 34, fine, moderate sea; Newcastle W.S.W., 28, fine, smooth sea, temperature 61°; Port Macquarie, S.W., 42, fine, smooth sea, temperature 65°; Clarence River, W., 42, fine, smooth sea, temperature 6[illegible]; Walgett, S.W., cold and fine, temperature 69; Dubbo, S.W., 28, fine but cloudy, temperature 53°; Goulburn, W., 28, dull.

Queensland.—Burketown, E., 40, fine. Blackall, S.E. 18, fine, clear, and cool; Townsville, calm, fine, and clear, smooth sea, temperature 61°; Thargomindah, S.E., fine. Mitchell, N.E. [illegible], fine; Hughenden, S.E., 2[illegible], fine and cool; Rockhampton, S.W., fine and clear, temperature 72°; Cape Moreton, S.W., 28, cloudy, temperature 66°; Roma, S., 40, fine.

ASTRONOMICAL MEMORANDA FOR JULY 25.

Sun rises at 6.59, sets at 5.14; Moon, 10.6 a.m., 9.48 p.m.; Mercury, 7.11 a.m., 5.59 p.m.; Venus, 9.13 a.m., 8.49 p.m.; Mars, 5.34 a.m., 3.18 p.m.; Jupiter, 11.9 a.m., 12.5 a.m.; Saturn, 6.41 a.m., 4.45 p.m. Full moon, July 5. New moon, July 21.

High water at Fort Denison, 11.20 a.m., 10.41 p.m.

H. A. LENEHAN,
Acting Government Astronomer.

METEOROLOGICAL REPORTS AND MAP FOR JULY 27, 1887.

Stations.	wt	Mx	mn	Rn.
Albury ..	c	56	41	0
Armidale	n	40	31	0
Balranald	b	73	36	0
Bathurst	b	53	31	0
Bendem'r	n	55	27	0
Bodalla ..	b	65	30	0
Bourke ..	b	64	38	0
Bungar...	n	—	29	0
C'md'n H.	b	63	41	0
C. St. Geo.	b	66	48	0
Carcoar ..	n	49	32	0
Casino ..	d	70	32	0
Cassilis ..	n	54	35	0
Clarence .	b	67	49	0
C'nd'b'lin	c	64	45	0
Cooma ..	c	56	36	0
Coonab'n.	b	63	25	0
Cowra ..	n	56	38	0
Cudg'llico	b	69	38	0
Deniliq'n.	h	62	33	0
Dubbo ..	b	58	26	0
Eden	b	58	42	0
Euston ..	b	66	37	0
Forbes ..	b	—	39	0
Glen Inn's	n	61	25	0
Goulburn	b	52	34	0

8 —— 56
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Stations.	wt	Mx	mn	Rn.
Grafton ..	f	74	39	0
Gulgong .	b	50	28	0
Gunned'h	c	57	33	0
Hay	h	60	37	0
Inverell ..	n	56	25	0
Kiandra ..	s	42	29	0
Lismore ..	b	73	42	0
Maitland .	b	60	43	0
M'n'ng H.	h	64	39	0
Marsdens.	c	58	48	●
Menindie.	b	62	43	0
Molong ..	b	40	27	0
M'r'ng'r'll	b	62	39	0
Moree ..	d	72	32	0
Moruya ..	b	67	49	0
Moss Vale	b	50	42	0
Mt. Hope	b	63	46	0
M. Vict'ria	b	48	35	0
Mudgee ..	n	65	26	0
M'rr'mb'h	u	54	35	0
M'rr'r'ndi	b	53	27	0
Mus'lbr'k	b	65	35	0
Narrabri	b	60	31	0
Newcastle	b	63	47	0
Orange ..	n	43	35	0
Picton ..	c	60	35	0
P. M'q'rie	b	63	39	0
P. St'ph'n	g	59	40	0
Q'nbeyan	b	59	37	0
Quirindi	n	61	35	0
Singleton	b	57	42	0
Sydney ..	c	57	45	0
Taralga ..	b	59	39	0
Taree	b	67	41	0
T'nt'rfield	b	61	27	0
Wagga ..	c	58	30	0
Walcha ..	n	53	19	0
Walgett	n	59	37	0
Warrah ..	c	57	—	0
W'ntw'rth	b	64	33	0
W'll'ng'ng	b	67	47	0
Young ..	g	57	31	0

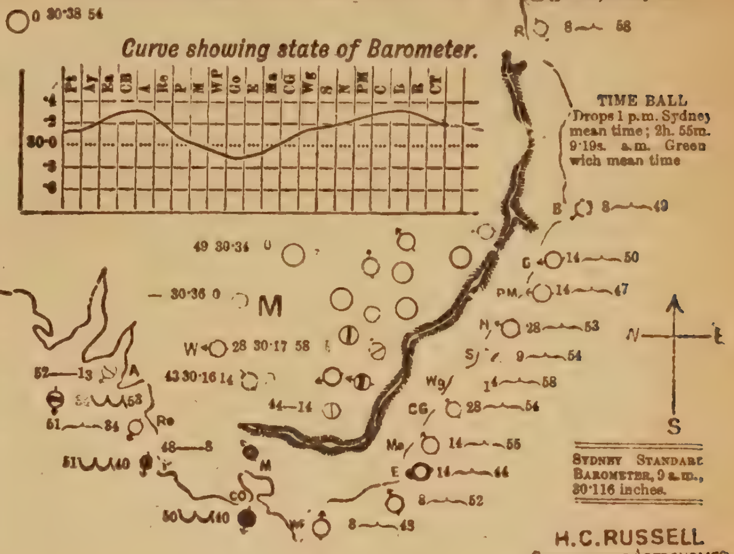
SYDNEY OBSERVATORY.

LATITUDE 33° 51' 41" S. LONGITUDE 10h. 4m. 50·81s. E.
MAGNETIC VARIATION, 9° 35' 37" E.

Average Annual Rainfall for 28 years........ ....49·480
Average for 29 years from Jan. 1 to June 30 1887 .. 30·968
Total Rainfall from Jan. 1, to JULY 27 1887 ...... 39·077

Barometers corrected to 32° Fah. and Mean Sea Level

Fine, wind N. Cloudy, wind E. T. storm, wind S. Rain, wind W. If it is CALM, the symbol used without the arrow. Smooth sea. Heavy sea. Very heavy sea.



SYDNEY STANDARD BAROMETER, 9 a.m., 30·116 inches.

H. C. RUSSELL
GOVERNMENT ASTRONOMER

NOTES EXPLANATORY OF MAP.

In the list of stations the column headed W.T. gives the state of the weather at 9 a.m., b standing for blue sky; c, detached clouds; d, drizzling rain; f, fog; g, gloomy; h, hazy; m, misty; n, frosty; o, overcast; p, passing showers; r, rain; s, snow; t, thunder; u, threatening. The next column. M'x gives the maximum temperature for previous 24 hours. M'n the corresponding minimum temperature; r'n, the rain for the previous 24 hours. The symbols used in the map are explained on the margin. At each coast station the wind symbol is placed like a vane pointing to the direction from which the wind is coming. A clear circle with it means fine weather; a circle with bar, cloudy weather; and a black spot, raining. Next to this symbol are placed figures denoting the number of miles the wind is moving per hour; next, a symbol showing the state of the sea; and, lastly, figures denoting the shade temperature at 9 a.m. The barometer curve shows the state of barometers round the coast from Perth to Cooktown:—Pt, Perth; Ay, Albany; Ea, Eucla; CB, Cape Borda; A, Adelaide; Re, Robe; P, Portland; M, Melbourne; W P, Wilson's Promontory; Go, Gabo; E, Eden; Ma, Moruya; CG Jervis Bay; Wg, Wollongong; S, Sydney; N, Newcastle; PM, Port Macquarie; C, Clarence River; B, Brisbane; R, Rockhampton; Ct, Cooktown. Inland the state of barometer is given in figures at Albury, Deniliquin, Wentworth Menindie, Bourke, and Alice Springs. The barometer curve enables one at a glance to trace the depressions, beginning with Western Australia, and passing along eastwards; northerly winds preceding them, and southerly following.

The rainfall on Sundays or holidays, when this map is not published, is in all cases included in the quantities shown by the next following map.

9 A.M. OBSERVATIONS.

Western Australia.—Cloudy and generally unsettled, with passing showers, on N.W. coast; calms and light S.S.E. winds prevail; sea moderate. During previous 24 hours 0·50in. of rain fell at Ashburton, 0·11in. at Carnarvon, and 0·09in. at Geraldton. Extremes of barometers and temperature: Eucla, 30·32; Geraldton, 29·99; Cossack, 70°; Perth, 47°.

South Australia.—Generally fine, with scattered clouds; light to fresh N.W. to S.W. winds prevail. Rain recorded south of Burra, 0·05 to 0·50in.; Meadows 0·64in.; Macclesfield, 0·55in.; and Mount Gambier, 0·44in. Sea rough. Extremes of barometers and temperature: Farina, 30·43; Port Darwin, 30·10 and 75°; Robe, 56°.

Victoria.—Cloudy and unsettled generally, with passing showers on S. coasts, winds fresh to strong, still N.W. inland, but have veered round to the S.W. on coast; sea moderate to rough. During previous 24 hours 0·29in. of rain fell at Cape Otway, 0·67in. at Portland, 0·30in. at Hamilton, and 0·15in. at Horsham. Extremes of barometers and temperature: Echuca, 30·26; Lake Entrance, 29·85; Horsham, 56°; Omeo, 41°.

Tasmania.—Showery in north, fine in central parts, but cloudy and unsettled in south; winds fresh to strong W.; sea moderate on S. coast. During previous 24 hours 0·15in. of rain fell at Low Head and Hobart. Extremes of barometers and temperature: Low Head, 29·72 and 48°; Southport, 29·64; Falmouth, 46°.

New Zealand.—Fine generally, with S. to S.W. winds, light on E. coast, but strong on W. coast, and rough sea. Barometers: In north, 30·00; in central parts, 29·90; in south, 29·80.

New South Wales.—Fine generally, but cloudy in few scattered places, heavy frosts on range, and foggy in Clarence River district; still snowing at Kiandra; winds on coast, W. to N.W.; inland, light and variable to calms prevail; sea smooth to moderate. Fine weather prevailed throughout during night. Extra stations: Brewarrina, max. 65°, min. 35°; Gabo Island, max. 63°, min. 37°. Extremes of barometers and temperature: Menindie, 30·36; Gabo Island, 29·83; Wollongong, 58°; Kiandra, 31°. For further particulars see map.

Queensland.—Fine generally, with light S.E. winds, except in south, where S.W. to N.W. prevail; sea smooth in south to moderate in north. Extremes of barometers and temperature: Roma, 30·32 and 35°; Cooktown, 30·18 and 74°.

3 P.M. OBSERVATIONS.

Victoria.—Omeo, N.W., 8, fine but cloudy, temperature 47°.

New South Wales.—Menindie, S.W., 28, fine, temperature 60°; Wentworth, S.W., 14, fine but cloudy, temperature 52°; Deniliquin, calm, dull, temperature 62°; Eden, W., 28, fine, smooth sea, temperature 60°; Moruya, W.N.W., 42, cloudy, threatening, and squally, smooth sea, temperature 60°; Cape St. George, W.N.W., 42, fine smooth sea, temperature 59°; Sydney, W.N.W., 28, fine and clear, smooth sea, temperature 62°; Newcastle, N.W., 28, fine, smooth sea, temperature 64°; Port Macquarie, S.W., 14, fine but cloudy, smooth sea, temperature 66°; Clarence River, N.W., 14, fine, smooth sea, temperature 64°; Dubbo, W., 28, fine, temperature 57°; Goulburn, N.W., 14, fine.

Queensland.—Hughenden, calm, fine; Normanton, S.E., 18, sultry and hazy, cloudy, temperature 84°; Townsville, S.E., 8, gloomy, temperature 70°; Burketown, S.E., fine and clear; Rockhampton, E., 18, fine but cloudy, temperature 69°; Cape Moreton, N., 8, fine, temperature 58°; Brisbane, W.S.W., 8, fine and clear, temperature 70°; Boulia, N.E., fine.

HEIGHT OF RIVERS ABOVE SUMMER LEVEL.

Macintyre: At Mungindi, (falling), 19ft. Barwon: At Mogil Mogil (falling) 23ft. 6in.; Walgett (rising), 28ft. 5in. Namoi: At Walgett (rising), 28ft. 4in. Culgoa: At Goodooga (rising), 4ft. Darling: At Brewarrina (rising), 14ft. 6in.; Bourke (rising), 18ft. 8in.; Louth (rising), 10ft. 7in.; Tilpa (rising), 14ft. 8in.; Wilcannia (rising), 14ft.; Menindie (rising), 14ft.; Pooncarie (falling), 15ft. 3in.; Wentworth, 14ft. 8in. Murrumbidgee: At Gundagai (stationary), 11ft.; Wagga, 14ft. 5in.; Hay (falling), over banks; Balranald, 13ft. 8in. Murray: At Albury, 11ft. 8in.; Euston, 13ft. 11in.

ASTRONOMICAL MEMORANDA FOR JULY 28.

Sun rises at 6.56, sets at 5.16; Moon, 12.3 a.m.; Mercury, 6.52 a.m., 5.40 p.m.; Venus, 9.6 a.m., 8.50 p.m.; Mars, 5.31 a.m., 3.15 p.m.; Jupiter, 10.58 a.m., 11.54 p.m.; Saturn, 6.31 a.m., 4.35 p.m. Full moon, July 5. New moon, July 21.

High water at Fort Denison, July 28, 1.13 a.m., 1.45 p.m.

H. A. LENEHAN,
Acting Government Astronomer.

METEOROLOGICAL REPORTS AND MAP FOR JULY 28, 1887.

Stations.	wt	Mx	Mn	Rs.
Albury ..	g	50	37	0·11
Armidale	n	32	27	0
Balranald	d	71	36	0
Bathurst	o	53	29	0
Bendem'r	f	52	24	0
Bodalla ..	n	64	40	0
Bourke ..	b	67	35	0
Bungarra	n	—	29	0
C'md'n H.	b	67	45	0
C. St. Geo.	b	63	44	0
Carcoar ..	n	50	31	0
Casino ..	b	72	34	0
Cassilis ..	n	55	33	0
Clarence .	b	68	47	0
C'nd'b'lin	n	65	31	0
Cooma ..	n	56	29	0
Coonab'n.	n	61	26	0
Cowra ..	b	51	34	0
Cudg'llico	f	71	35	0
Deniliq'n.	b	62	39	0
Dubbo ..	b	60	25	0
Eden	c	60	42	0
Euston ..	b	65	40	0
Forbes ..	b	—	41	0
Glen Inn's	n	53	25	0
Goulburn	g	51	29	[illegible]
Grafton ..	n	71	37	0
Gulgong .	b	50	28	0
Gunned'h	b	58	34	0
Hay	b	61	34	0
Inverell ..	n	54	25	0
Kiandra ..	n	38	9	0
Lismore .	b	73	40	0
Maitland .	d	61	41	0
M'n'ng H.	b	64	40	0
Marsdens.	b	57	37	0
Menindie.	b	61	39	0
Molong ..	b	41	26	0
M'r'ng'r'll	f	60	31	0
Moree ..	b	68	31	0
Moruya ..	b	65	38	0
Moss Vale	b	49	35	0
Mt. Hope	b	67	44	0
M. Vict'ria	n	44	29	0
Mudgee ..	n	64	23	0
M'rr'mb'h	b	55	34	0
M'rr'r'ndi	n	55	34	0
Mus'lbr'k	n	61	31	0
Narrabri	b	61	31	0
Newcastle	b	65	43	0
Orange ..	f	46	35	0
Picton ..	b	60	35	0
P. M'q'rie	b	64	38	0
P. St'ph'n	b	61	40	0
Q'nbeyan	n	51	30	0
Quirindi	n	63	33	0
Singleton	n	58	42	0
SYDNEY ..	b	62	46	0
Taralga ..	n	51	30	0
Taree	b	66	39	0
T'nt'rfield	b	61	22	0
Wagga ..	f	54	31	0
[illegible]	[illegible]	[illegible]	[illegible]	0
Walgett	b	61	34	0
Warrah ..	n	57	—	0
W'ntw'rth	b	62	42	0
W'll'ng'ng	b	65	46	0
Young ..	b	66	33	0

SYDNEY OBSERVATORY

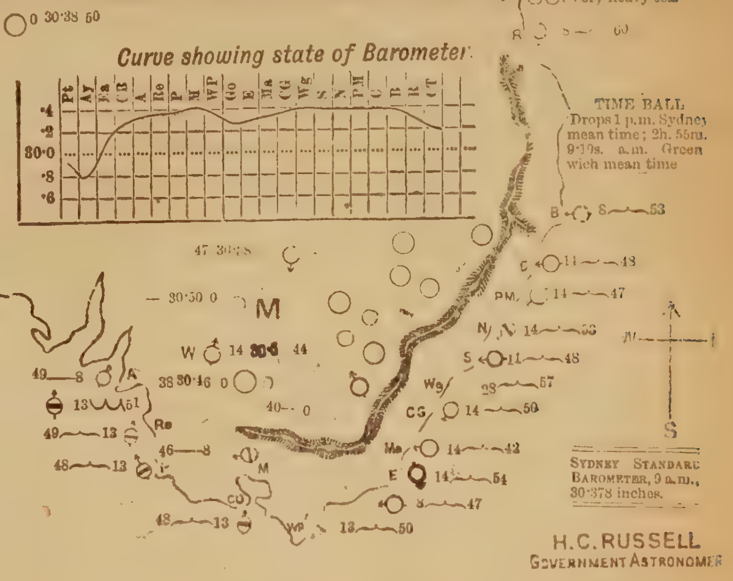
LATITUDE 33° 51' 41" S. LONGITUDE 10h. 4m. 50·6s. E.

MAGNETIC VARIATION, 9° 35' 37" E.

Average Annual Rainfall for 28 years .... 49·489
Average for 29 years from Jan. 1 to June 30 1887 .. 25·968
Total Rainfall from Jan. 1, to JULY 28 1887 ... 30·077

Barometers corrected to 32° Fah. and Mean Sea Level

Fine, wind N. Clouds. T. storm, wind S. Rain wind.
If it is CALM, the symbol used without the arrow
Smooth sea.
Heavy sea
Very heavy sea.



H. C. RUSSELL
GOVERNMENT ASTRONOMER

NOTES EXPLANATORY OF MAP.

In the list of stations the column headed W.T. gives the state of the weather at 9 a.m., b standing for blue sky; c, detached clouds; d, drizzling rain; f, fog; g, gloomy; h, hazy; m, misty; n, frosty; o, overcast; p, passing showers; r, rain; s, snow; t, thunder; u, threatening. The next column, M'x gives the maximum temperature for previous 24 hours. M'n the corresponding minimum temperature. R'n, the rain for the previous 24 hours. The symbols used in the map are explained on the margin. At each coast station the wind symbol is placed like a vane pointing to the direction from which the wind is coming. A clear circle with it means fine weather; a circle with bar, cloudy weather; and a black spot, raining. Next to this symbol are placed figures denoting the number of miles the wind is moving per hour; next, a symbol showing the state of the sea; and, lastly, figures denoting the shade temperature at 9 a.m. The barometer curve shows the state of barometers round the coast from Perth to Cooktown:—Pt, Perth; Ay, Albany; Ea, Eucla; CB, Cape Borda; A, Adelaide; Re, Robe; P, Portland; M, Melbourne; WP, Wilson's Promontory; Go, Gabo; E, Eden; Ma, Moruya; CG Jervis Bay; Wg, Wollongong; S, Sydney; N, Newcastle; PM, Port Macquarie; C, Clarence River, B, Brisbane; R, Rockhampton; Ct, Cooktown. Inland the state of barometer is given in figures at Albury, Deniliquin, Wentworth Menindie, Bourke, and Alice Springs. The barometer curve enables one at a glance to trace the depressions, beginning with Western Australia, and passing along eastwards; northerly winds preceding them, and southerly following.

The rainfall on Sundays or holidays, when this map is not published, is in all cases included in the quantities shown by the next following map.

9 A.M. OBSERVATIONS.

Western Australia.—Generally foggy on west coast, with light rains at Perth, fine but cloudy on south coast; winds fresh S.E. on west coast, light N.W. on south coast. During previous 24 hours 0·06in. of rain fell at Ashburton, and 0·03in. at Perth; sea smooth. Extremes of barometers and temperature: Carnarvon, 30·04 and 74°; Albany, 29·73; Perth, 48°.

South Australia.—Generally fine and cold, with scattered clouds on parts of coast, and in places heavy frosts; winds N.E. to N.W. fresh to strong; sea rough on south coast. Extremes of barometers and temperature: Farnia, 30·44; Eucla, 29·93; Port Darwin, 75°; Robe, 49°.

Victoria.—Generally cloudy and unsettled, with foggy and frosty weather inland; winds light and variable, but principally from N.W.; sea smooth. During previous 24 hours, 0·09in. of rain fell at Hamilton, 0·22in. at Wilson's Promontory, 0·03in. at Ballarat, and 0·0in. at Portland and Cape Otway. Extremes of barometers and temperature: Ballarat, 30·45; Lake Entrance, 30·30; Horsham, 56°; and Omeo, 37°.

Tasmania.—Fine generally with scattered clouds; winds light to fresh, S. in north parts, and N.W. in south; sea smooth to moderate. Since last report, 0·10in. rain fell at Low Head, 0.20in. at Southport, and 0·02in. at Hobart. Extremes of barometers and temperature: Circular Heads, 30·28 and 48°; Southport, 30·16; Falmouth, 42°.

New Zealand.—Fine throughout, with exception of light north-westerly winds; in extreme south parts, calms prevail. Barometers: 30·20 in north, 30·10 in central parts, 29·90 in south.

New South Wales.—Fine generally, with scattered clouds at places on Victorian border; severe frosts along the range and dense fogs in Central districts; with exception of light westerly winds on coast, calms prevail throughout, smooth sea. During previous 24 hours heavy, but partial, showers fell in S. E. parts. Extra stations: Brewarrina, max. 63°, min. 34°; Gabo Island, max. 66°, min. 47°, rain 0·71 inch; Tamworth, max. 58, min. 25°. Extremes of barometers and temperature: Wentworth, 30·51; Cape St. George, 30·29; Wollongong, 57°; Kiandra, 15°; with minimum last night 9 degrees. For further particulars see map.

Queensland.—Fine generally, with sharp frosts in central parts; winds S.E., strong at places, but light generally; sea smooth to moderate. Extremes of barometers and temperature: Roma, 30·36 and 41°; Normanton, 30·17; Cooktown, 90°.

3 P.M. OBSERVATIONS.

New South Wales.—Menindie, N.W., 14, fine and clear, temperature 58°; Wentworth, N., 14, fine, temperature 54°; Deniliquin, calm, fine, temperature 61°; Cape St. George, S., 42, fine smooth sea, temperature 57°; Sydney, S.S.E., 11, fine, clear, and cold, smooth sea, temperature 56°; Newcastle, S., 28, fine, smooth sea, temperature 58°; Port Macquarie, S.S.W., 28, fine, smooth sea, temperature 63°; Clarence River, S., 42, fine, smooth sea, temperature 62°; Dubbo, S.E., 14, fine, temperature 56°; Goulburn, calm, fine.

Queensland.—Hughenden, calm, fine and hot; Burketown, S.E., 8, fine, and clear; Townsville, S.E., 23, fine but cloudy, rough sea, temperature 73°; Boulia, S.E., 13, fine and clear; Rockhampton, N.E., 13, showery, temperature 68°; Roma, S., 8, fine and clear, temperature 63°; Cape Moreton, S.E., 28, fine, temperature 64°; Brisbane, S.E., 13, fine but cloudy, temperature 66°; Blackall, S.E., fine, clear, and warm.

HEIGHT OF RIVERS ABOVE SUMMER LEVEL.

Macintyre: At Mungindi (falling), 21ft. Barwon: At Mogil Mogil (falling) 21ft.; Walgett (rising), 29ft. 10in. Namoi: At Walgett (rising), 29ft. Culgoa: At Goodooga (rising), 4ft. 6in. Darling: At Brewarrina (rising), 15ft.; Bourke (rising), 19ft. 8in.; Louth (rising), 19ft. 11in.; Tilpa (rising), 15ft. 9in.; Wilcannia (stationary), 14ft.; Menindie (rising), 14ft. 2in.; Pooncarie (falling), 15ft. 3in.; Wentworth, 14ft. 3in. Murrumbidgee: At Gundagai (falling), 10ft.; Wagga, 14ft. 5in.; Hay (falling), over banks; Balranald, 13ft. 11in. Murray: At Albury, 11ft. 6in.; Euston, 14ft. 1in.

ASTRONOMICAL MEMORANDA FOR JULY 29.

Sun rises at 6.56, sets at 5.16; Moon, 12.45 p.m., sets at 1.3 a.m.; Mercury, 6.43 a.m., 5.30 p.m.; Venus, 9.4 a.m., 8.50 p.m.; Mars, 5.30 a.m., 3.15 p.m.; Jupiter, 10.55 a.m., 11.51 p.m.; Saturn, 6.28 a.m., 4.32 p.m. Full moon, July 5. New moon, July 21.

High water at Fort Denison, July 29, 2.16 a.m., 2.54 p.m.

H. A. LENEHAN,
Acting Government Astronomer.

...OLOGICAL REPORTS AND MAP FOR JULY 28, 1887

Stations.	W.	Max. Min.	Rain.
Albury	f	54 34	0
Armidale	n	30 23	0
Balranald	g	73 38	0
Bathurst	n	58 26	0
Berdem'r	n	52 24	0
Bodalla	b	64 30	0
Bourke	b	69 40	0
Buncarra	n	— 29	0
C'md'n H.	g	64 53	0
C. St. Geo.	b	57 42	0
Carcoar	n	47 29	0
Casino	g	68 36	0
Cassilis	b	54 29	0
Clarence	g	67 47	0
C'nd'b'lin	n	64 33	0
Cooma	n	57 21	0
Coonab'n.	n	61 23	0
Cowra	b	58 33	0
Cudg'llico	b	61 34	0
Deniliq'n.	o	75 32	0
Dubbo	b	63 27	0
Eden	n	57 41	0
Euston	—	— —	—
Forbes	b	— 41	0
Glen Inn's	n	58 27	0
Goulburn	f	54 25	0
Grafton	b	70 40	0
Gulgong	n	54 26	0
Gunned'h	b	56 33	0
Hay	c	63 35	0
Inverell	n	55 25	0
Kiandra	n	39 2	0
Lismore	u	70 42	0
Maitland	b	61 37	0
M'n'ng H.	g	63 43	0
Marsdens	n	56 35	0
Menindie	b	60 39	0
Molong	b	42 26	0
M'r'ng'r'll	u	60 29	0
Moree	b	74 35	0
Moruya	b	61 37	0
Moss Vale	b	49 32	0
Mt. Hope	b	70 42	0
M. Vict'ria	n	48 32	0
Mudgee	n	66 26	0
M'rr'mb'h	n	61 28	0
M'rr'r'ndi	n	52 33	0
Mus'lbr'k	n	60 22	0
Narrabri	b	61 31	0
Newcastle	b	65 40	0
Orange	n	47 31	0
Picton	n	57 33	0
P. M'q'rie	c	63 43	0
P. St'ph'n	b	59 39	0
Q'nbeyan	n	51 30	0
Quirindi	b	65 32	0
Singleton	p	55 37	0
Sydney	b	57 37	0
Taralga	n	61 25	0
Taree	g	63 48	0
T'nt'rfield	b	58 28	0
Wagga	n	50 28	0
Walcha	b	52 17	0
Walgett	n	59 36	0
Warrah	n	60 —	0
W'ntw'rth	g	65 43	0
W'll'ng'ng	b	63 41	0
Young	n	74 29	0

SYDNEY OBSERVATORY.

LATITUDE 33° 51' 41" S. LONGITUDE 10h. 4m. 50·21s. E.

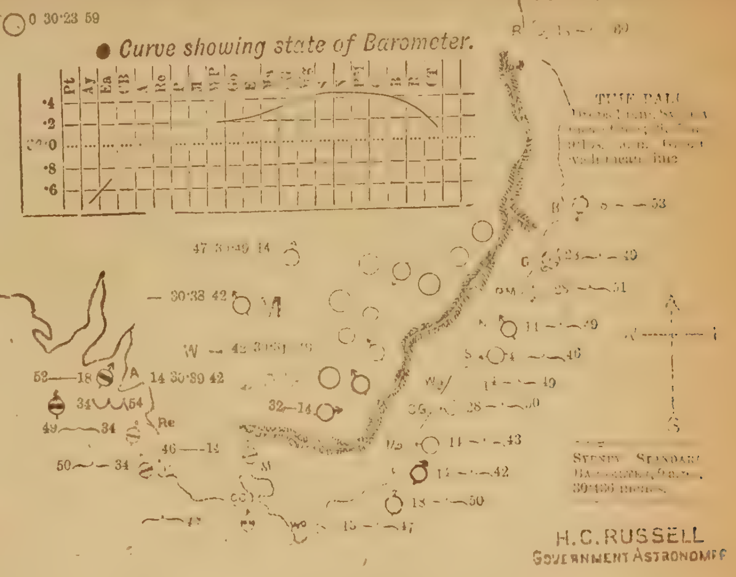
MAGNETIC VARIATION, 9° 35' 37" E.

Average Annual Rainfall for 28 years .... 49·459

Average for 29 years from Jan. 1 to June 29 1887 .. 30·268

Total Rainfall from Jan. 1, to JULY 29 1887 ...... 30·077

Barometers corrected to 32° Fah. and Mean Sea Level



NOTES EXPLANATORY OF MAP.

In the list of stations the column headed W. [illegible] gives the state of the weather at 9 a.m., b standing for blue sky, c, detached clouds; d, drizzling rain; f, fog; g, gloomy; h, hazy; m, misty; n, frosty; o, overcast; p, passing showers; r, rain; s, snow; t, thunder; u, threatening. The next column, Max gives the maximum temperature for previous 24 hours. Min the corresponding minimum temperature; Rn, the rain for the previous 24 hours. The symbols used in the map are explained on the margin. At each coast station the wind symbol is placed like a vane pointing to the direction from which the wind is coming. A clear circle with it means fine weather; a circle with bar, cloudy weather; and a black spot, raining. Next to this symbol are placed figures denoting the number of miles the wind is moving per hour; next, a symbol showing the state of the sea; and, lastly, figures denoting the shade temperature at 9 a.m. The barometer curve shows the state of barometers round the coast from Perth to Cooktown:—Pt, Perth; Ay, Albany; Ea, Eucla; CB, Cape Borda; A, Adelaide; Re, Robe; P, Portland; M, Melbourne; WP, Wilson's Promontory; Go, Gabo; E, Eden; Ma, Moruya; CG Jervis Bay; Wg, Wollongong; S, Sydney; N, Newcastle; PM, Port Macquarie; C, Clarence River; B, Brisbane; R, Rockhampton; Ct, Cooktown. Inland the state of barometer is given in figures at Albury, Deniliquin, Wentworth, Menindie, Bourke, and Alice Springs. The barometer curve enables one at a glance to trace the depressions, beginning with Western Australia, and passing along eastwards; northerly winds preceding them, and southerly following.

The rainfall on Sundays or holidays, when this map is not published, is in all cases included in the quantities shown by the next following map.

9 A.M. OBSERVATIONS.

Western Australia.—Line interrupted.

South Australia.—Overcast and raining generally, threatening south of Farina, fresh to strong N.E. to N.W. winds prevail; during previous 24 hours light rains fell on coast and ranges—Forster's Bay, 0·20 inch; Lucindale, 0·20 inch; and Queenscliff, 0·17 inch; sea rough on south coast. Extremes of barometers and temperature: Alice Springs, 30·23; Eucla, 29·63; Port Darwin, 73°; Robe, 49°.

Victoria.—Cloudy, overcast, and generally threatening, with sharp frosts at stations inland; winds N. to N.E., fresh inland to strong on coast; sea moderate. The weather has been fine during previous 24 hours. Extremes of barometers and temperature: Echuca, 30·35; Hamilton, 30·02; Horsham, 52°; and Omeo, 38°.

Tasmania.—Generally fine, but cloudy, with dense fogs in north parts, and sharp frosts in south; winds strong N. to N.W.; sea generally moderate but rough on N.E. coast. Extremes of barometers and temperature: Low Head, 30·19 and 51°; Southport, 30·05 and 39°.

New Zealand.—Fine throughout, calms prevail in north, wind N.E. in central parts, and W. in south. Barometers: 30·30 in north, 30·20 in Straits, and 30·20 in south.

New South Wales.—Fine and cold generally, cloudy at scattered places on coast, and in S.W. parts; heavy frosts all along the range and in central division; heavy fogs reported from Lachlan and Murrumbidgee districts; winds light to fresh N. to N.W. on coast, light and variable calms inland, sea smooth. Extra stations: Brewarrina, max. 63°, min. 33°; Gabo Island, max. 54°, min. 45°; and Tamworth, max. 60°, min. 26°. Very cold last night at Kiandra, minimum reading only 2 degrees. Extremes of barometers and temperature: Walgett, 30·49; Eden, 30·26; Port Macquarie, 51°; Kiandra, 20°.

Queensland.—Fine throughout, with sharp frosts in south central parts; light to fresh S.E. winds prevailing; smooth to moderate sea. During previous 24 hours 0·11 inch of rain fell at Rockhampton, and 0·03 inch at Mackay. Extremes of barometers and temperature: Brisbane, 30·39; Cooktown, 30·16 and 75°; Roma, 41°.

3 P.M. OBSERVATIONS.

Victoria.—Portland, N., 40, overcast and light rain, smooth sea, temperature 50°; Cape Otway, N., 40, overcast, gloomy, and misty, moderate sea, temperature 49°; Melbourne, N., 23, overcast and squally, temperature 54°; Cape Schanck, N., 28, overcast and squally, moderate sea, temperature 55°; Wilson's Promontory, N.E., 13, gloomy, slight sea, temperature 49°; Lakes' Entrance, calm, gloomy and cloudy, temperature 58°; Omeo, N., 8, overcast and raining, temperature 48°.

New South Wales.—Menindie, N.W., 3, cloudy, dull, temperature 60°; Wentworth, N.W., 1, cloudy and threatening, temperature 48°; Deniliquin, N., 28, fine but cloudy, temperature 59°; Moruya, N.N.E., 28, cloudy and gloomy, smooth sea, temperature, 59°; Cape St. George, N., 42, fine, smooth sea, temperature 58°; Sydney, N.E., 11, fine, hazy, and cool, smooth sea, temperature 58°; Newcastle, N.W., 14, fine, smooth sea, temperature 62°; Port Macquarie, S.E., 28, fine, smooth sea, temperature 65°; Clarence River, S., fine, moderate sea, temperature 63°; Walgett, calm, fine and clear, temperature 59°; Dubbo, N., 14, fine, temperature 59°; Goulburn, N.W., 14, fine.

Queensland.—Burketown, S.S.E., 8, fine; Hughenden, S.W., 8, fine, and warm; Townsville, S.E., 18, fine, moderate sea, temperature 72°; Thargomindah, N.E., fine; Blackall, N.W., fine, clear, and cool; Rockhampton, E., 18, cloudy, like rain, temperature 68°; Cape Moreton, S.E., 28, fine, cloudy, temperature 6[illegible]°; Brisbane, S.E., 13, fine but cloudy, temperature 65°; Boulia, E.N.E., 34, fine and clear.

HEIGHT OF RIVERS ABOVE SUMMER LEVEL.

Macintyre: At Mungindi (falling), 17ft. 6in. Barwon: At Mogil Mogil (falling) 19ft. 6in.; Walgett (rising), 31ft. Namoi: At Walgett (rising), 29ft. 6in. Culgoa: At Goodooga (rising), 5ft. Darling: At Brewarrina (rising), 15ft. 6in.; Bourke (rising), 19ft. 11in.; Louth (rising), 13ft. 6in.; Tilpa (rising), 16ft. 9in.; Wilcannia (rising), 15ft.; Menindie (rising), 14ft. 4in.; Pooncarie, 15ft. 2in.; Wentworth, 14ft. 4in. Murrumbidgee: At Gundagai (falling), 9ft. 6in.; Wagga, 14ft. 5in.; Hay (falling), a banker; Balranald, 14ft. 4in. Murray: At Albury, 11ft. 3in.

ASTRONOMICAL MEMORANDA FOR JULY 30.

Sun rises at 6.55, sets at 5.10; Moon, 1.32 p.m., sets at 2.5 a.m.; Mercury, 6.33 a.m., 5.19 p.m.; Venus, 9.2 a.m., 8.50 p.m.; Mars, 5.28 a.m., 3.14 p.m.; Jupiter, 10.51 a.m., 11.47 p.m.; Saturn, 6.24 a.m., 4.28 p.m. Full moon, July 5. New moon, July 21.

High water at Fort Denison, July 30, 3.31 a.m., 4.12 p.m.

H. A. LENEHAN,
Acting Government Astronomer.

... WEATHER MAP FOR AUGUST 6, 1887.

Stations.	wr	Mx	Mn	Rn
Albany ..	[illegible]	[illegible]	[illegible]	[illegible]
Armidale	u	52	26	0
Balranald	f	62	33	0
Bathurst	u	48	36	0
Bendem'r	n	52	24	0
Bodalla ..	b	64	29	0
Bourke ..	b	60	32	0
Buncarra	n	—	29	0
C'md'n H.	b	61	43	0
C. St. Geo.	b	62	42	0
Carcoar ..	r	45	34	0·03
Casino ..	b	62	30	0
Cassilis ..	n	50	22	0
Clarence .	b	67	43	0
C'nd'b'lin	c	69	39	0
Cooma ..	n	56	29	0
Coonab'n.	b	61	32	0
Cowra ..	u	53	43	0
Cudg'llico	g	53	38	0
Deniliq'n.	f	66	30	0
Dubbo ..	b	55	23	0
Eden	b	57	49	0
Euston ..	b	61	28	0
Forbes ..	u	—	40	0
Glen Inn's	n	52	23	0
Goulburn	b	48	33	0
Grafton ..	n	75	45	0·03
Gulgong .	b	48	26	0
Gunned'h	b	56	32	0
Hay	f	53	32	0
Inverell ..	n	52	23	0
Kiandra ..	n	47	27	0
Lismore ..	n	71	37	0
Maitland .	b	59	40	0
M'n'ng H.	b	58	39	0
Marsdens.	c	55	37	0
Menindie.	g	57	43	0
Molong ..	r	40	34	0
M'r'ng'r'll	c	59	41	0
Moree ..	b	67	32	0
Moruya ..	b	64	38	0
Moss Vale	n	45	33	0
Mt. Hope	u	64	46	0
M. Vict'ria	n	43	28	0
Mudgee ..	c	64	29	0
M'rr'mb'h	c	52	33	0
M'rr'r'ndi	n	52	27	0
Mus'lbr'k	b	55	29	0
Narrabri	b	59	31	0
Newcastle	b	63	39	0
Orange ..	g	42	35	0
Picton ..	b	54	37	0
P. M'q'rie	b	67	35	0
P. St'ph'n	b	55	36	0
Q'nbeyan	n	53	31	0
Quirindi	n	63	31	0
Singleton	b	54	43	0
Sydney ..	b	60	44	0
Taralga ..	b	67	39	0
Taree	b	67	37	0
T'nt'rfield	b	56	23	0
Wagga ..	g	61	31	0
Walcha ..	n	48	17	0
Walgett	b	56	33	0
Warrah ..	b	58	—	—
W'ntw'rth	b	58	35	0
W'll'ng'ng	b	61	45	0
Young ..	g	70	33	0

SYDNEY OBSERVATORY.

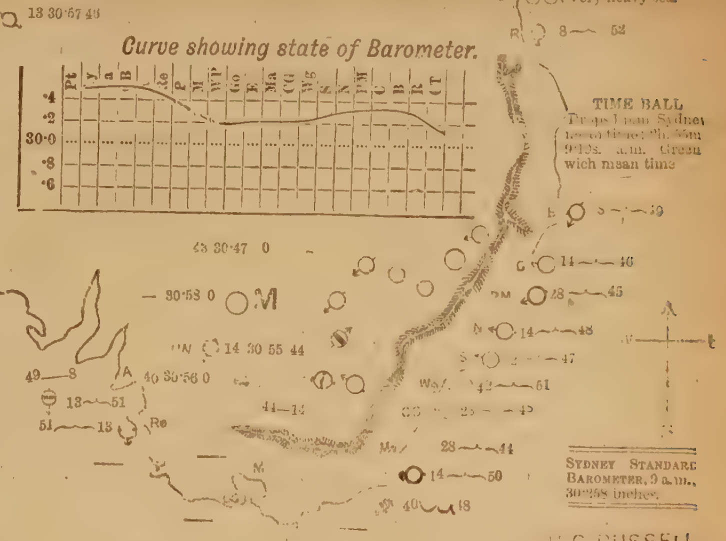
LATITUDE 33° 51' 41" S. LONGITUDE 10h. 4m. 49s. E.

MAGNETIC VARIATION, 9° 46' E.

Average Annual Rainfall for 28 years......... 49·489
Average for 29 years from Jan. 1 to JULY 31 1887 .. 35·222
Total Rainfall from Jan. 1, to Aug. 6 1887 ...... 30·142

Barometers corrected to 32° Fah. and Mean Sea Level

[illegible] wind [illegible] used without the arrow
Smooth sea.
Heavy sea.
Very heavy sea.



SYDNEY STANDARD BAROMETER, 9 a.m., 30·258 inches.

H. C. RUSSELL
GOVERNMENT ASTRONOMER

NOTES EXPLANATORY OF MAP.

In the list of stations the column headed W. [illegible] state of the weather at 9 a.m., b standing for blue sky; c, detached clouds; d, drizzling rain; f, fog; g, gloomy; h, hazy; m, misty; n, frosty; o, overcast; p, passing showers; r, rain; s, snow; t, thunder; u, threatening. The next column, Mx, gives the maximum temperature for previous 24 hours. M'n the corresponding minimum temperature; Rn, the rain for the previous 24 hours. The symbols used in the map are explained on the margin. At each coast station the wind symbol is placed like a vane pointing to the direction from which the wind is coming. A clear circle with it means fine weather; a circle with bar, cloudy weather; and a black spot, raining. Next to this symbol are placed figures denoting the number of miles the wind is moving per hour; next, a symbol showing the state of the sea; and, lastly, figures denoting the shade temperature at 9 a.m. The barometer curve shows the state of barometers round the coast from Perth to Cooktown: Pt, Perth; Ay, Albany; Ea, Eucla; CB, Cape Borda; A, Adelaide; Re, Robe; P, Portland; M, Melbourne; W P, Wilson's Promontory; Go, Gabo; E, Eden; Ma, Moruya; C G Jervis Bay; Wg, Wollongong; S, Sydney; N, Newcastle; P M, Port Macquarie; C, Clarence River; B, Brisbane; R, Rockhampton; Ct, Cooktown. Inland the state of barometer is given in figures at Albury, Deniliquin, Wentworth, Menindie, Bourke, and Alice Springs. The barometer curve enables one at a glance to trace the depressions, beginning with Western Australia, and passing along eastwards; northerly winds preceding them, and southerly following.

The rainfall on Sundays or holidays, when this map is not published, is in all cases included in the quantities shown by the next following map.

9 A.M. OBSERVATIONS.

Western Australia.—Generally fine, but overcast at Cossack and Carnarvon. Cossack, overcast and dull, east wind, with rough sea; Ashburton, fine and clear, with N.E. wind; Carnarvon, calm and cloudy, smooth sea; Germanton, fine and clear, smooth sea, and N.E. wind; Perth, fine and clear, with S.E. wind; and Albany, calm, fine, with smooth sea. Extremes of barometers and temperature: Albany, 30·37 and 45°; Cossack, 30·11; Carnarvon, 69°.

South Australia.—Generally fine, but cloudy in south parts and on coast; winds strong S.E. inland, but light to fresh N. to N.W. on coast; sea moderate. Robe reports 0·23 inch of rain to have fallen during previous 24 hours. Extremes of barometers and temperature: Farina, 30·59; Port Darwin, 30·11 and 70°; Eucla, 45°.

Victoria.—Generally cloudy, overcast, and unsettled, with rain at places on coast and fogs in west; winds fresh to strong, S. to to S.W.; sea smooth to rough. Rain fell generally during previous 24 hours. Portland recorded 0·21 inch, Cape Otway 0·16 inch, Cape Schanck 0·11 inch, Wilson's Promontory 0·14 inch, Melbourne 0·12 inch, Hamilton 0·19 inch, Ballarat 0·15 inch, and Horsham 0·04 inch. Extremes of barometers and temperature:—Ballarat, 30·43; Lake Entrance, 30·24; Horsham, 52°; Omeo, 40°.

Tasmania.—Fine throughout with fresh S.W. to S.E. winds, except in south, where calms prevail. Sea moderate on south coast. Extremes of barometers and temperature:—Falmouth, 30·29 and 49°; Hobart, 30·22; Low Head, 40°.

New Zealand.—Raining and generally showery, with N. to N.W. winds in North Island and S.E. in extreme south. Barometers:—In north, 29·80; central parts, 29·70; and 29·50 in south.

Queensland.—Cloudy and generally threatening, with strong S.E. winds and gales in north, and fresh S.W. in south; sea moderate to rough. Extremes of barometers and temperature: Townsville, 30·29; Cooktown, 30·11 and 70°; Brisbane, 49°.

New South Wales.—Fine and cool on coast and in N.W. parts, frosty along the range, unsettled and threatening in central parts, and foggy in south-west, with passing showers at Carcoar, Molong, and Gabo Island. Winds fresh on coast, with westward tendency; light and variable prevail inland. Sea generally smooth, but rough in south. During previous 24 hours light rain fell at scattered places in south-east of colony. Extra stations: Brewarrina, max. 56°, min. 33°; Gabo Island, max. 55°, min. 47°, rain 0·32in.; Tamworth, max. 54°, min. 24°. Extremes of barometers and temperature: Menindie, 30·58; Gabo Island, 30·12; Wollongong, 61°; Armidale, 32°. For further particulars see map.

3 P.M. OBSERVATIONS.

New South Wales.—Menindie, N.E., cloudy, like rain, temperature 58°; Wentworth, S.W., cloudy and dull, temperature 46°; Deniliquin, S.E., cloudy, like rain, temperature 59°; Eden, S.W., 42, fine, but cloudy, smooth sea, temperature 55°; Moruya, S., 28, fine, moderate sea, temperature 55°; Cape St. George, S., 42, fine, moderate sea, temperature 55°; Sydney, S., 28, fine, moderate sea; Newcastle, S.S.E., 28, fine, smooth sea, temperature 58°; Port Macquarie, S.W., 14, fine, smooth sea, temperature 63°; Clarence River, E., 14, fine, smooth sea, temperature 60°; Walgett, S.E., fine, temperature 55°; Dubbo, S.W., 14, fine, but cloudy, temperature 53°; Goulburn, N.W., 14, fine.

Queensland.—Burketown, S.S.E., 40, gale still blowing, and cloudy; Normanton, S.E., 13, fine and clear, temperature 38°; Townsville, E., 8, overcast, smooth sea, temperature 66°; Mackay, S., 18, fine and cold; Hughenden, S.E., 13, cloudy, dull and cold; Blackall, S.E., 28, fine and clear, and cold; Rockhampton, S.W., 18, fine and clear, temperature 64°; Roma, S.W., 8, fine and clear, temperature 58°; Cape Moreton, S.W., 23, fine, temperature 67°; Thargomindah, S.E., fine.

HEIGHT OF RIVERS ABOVE SUMMER LEVEL.

Macintyre: At Mungindi (falling), 10ft. Barwon: At Mogil Mogil (falling), 11ft. 6in.; at Walgett (falling), 26ft. Namoi: At Walgett (falling), 23ft. Culgoa: At Goodooga (falling), 3ft. 8in. Darling: At Brewarrina 17ft. 9in.; at Bourke (rising), 25ft. 6in.; at Louth (rising), 20ft. 4in.; at Tilpa (rising), 23ft. 9in.; at Wilcannia (rising), 22ft. 4in.; at Menindie (rising), 16ft. 5in. at Pooncarie (rising), 15ft. 4in.; at Wentworth 15ft. 3in.; Murrumbidgee: At Gundagai, falling), 10ft. 3in.; at Wagga, 17ft. 0in.; at Hay (rising), 15ft. 4in.; at Balranald, 16ft.; Murray: At Albury 13ft. 3in.; at Euston, 16ft. 8in.

ASTRONOMICAL MEMORANDA FOR AUGUST 8.

Sun rises at 6.48, sets at 5.23; Moon, 9.38 p.m., 9.4 a.m.; Mercury, 5.46 a.m., 4.19 p.m.; Venus, 8.38 a.m., 8.48 p.m.; Mars, 5.15 a.m., 3.7 p.m.; Jupiter, 10.18 a.m., 11.17 p.m.; Saturn, 5.53 a.m., 3.59 p.m. Full moon, August 4. New moon, August 19.

High water at Fort Denison, August 8: 10.51 a.m., 11.8 p.m.

H. A. LENEHAN.
Acting Government Astronomer.

METEOROLOGICAL REPORTS AND MAP FOR AUGUST 16, 1887.

Stations.	wt	Mx	Mn	Rn
Albury ..	g	63	47	0·85
Armidale	b	60	37	0
Balranald	b	71	35	0·07
Bathurst	b	64	32	0
Bendem'r	f	60	37	0
Bodalla ..	b	62	35	0
Bourke ..	g	74	46	0
Buncarra	b	—	40	0
C'md'n H.	b	66	58	0
C. St. Geo.	b	62	46	0
Carcoar ..	b	54	33	0
Casino ..	b	75	46	0
Cassilis ..	b	61	39	0
Clarence .	f	74	55	0
C'nd'b'lin	c	68	49	0
Cooma ..	f	66	36	0
Coonab'n.	b	64	33	0
Cowra ..	b	66	41	0
Cudg'llico	b	74	45	0
Deniliq'n.	b	72	39	0·10
Dubbo ..	b	71	37	0
Eden	b	62	43	0
Euston ..	b	79	36	0·01
Forbes ..	b	—	43	0
Glen Inn's	b	62	35	0
Goulburn	b	61	31	0
Grafton ..	b	76	49	0
Gulgong .	b	55	33	0
Gunned'h	b	65	40	0
Hay	b	70	43	0·86
Inverell ..	b	54	38	0
Kiandra .	s	58	25	0
Lismore .	b	79	55	0
Maitland .	b	66	50	0
M'n'ng H.	b	61	52	0
Marsdens.	b	67	42	0·03
Menindie.	b	74	45	0
Molong ..	b	67	34	0
M'r'ng'r'll	b	65	38	0·10
Moree ..	b	76	42	0
Moruya ..	b	64	44	0
Moss Vale	f	50	39	0
Mt. Hope	c	72	45	0
M. Vict'ria	b	56	33	0
Mudgee ..	b	73	31	0
M'rr'mb'h	u	67	37	0
M'rr'r'ndi	n	61	41	0
Mus'lbr'k	b	63	37	0
Narrabri	b	63	58	0
Newcastle	f	66	50	0
Orange ..	n	55	36	0
Picton ..	b	64	38	0
P. M'q'rie	b	67	48	0
P. St'ph'n	b	61	46	0
Q'nbeyan	n	57	35	0
Quirindi	b	73	42	0
Singleton	b	63	48	0
SYDNEY ..	b	63	48	0
Taralga ..	b	61	40	0
Taree	b	50	31	0
T'nt'rfield	b	67	35	0
Wagga ..	g	66	39	0·40
Walcha ..	n	53	28	0
Walgett	b	64	44	0
Warrah ..	b	65	—	0
W'ntw'rth	b	66	41	0
W'll'ng'ng	b	67	45	0
Young ..	b	59	36	0·02

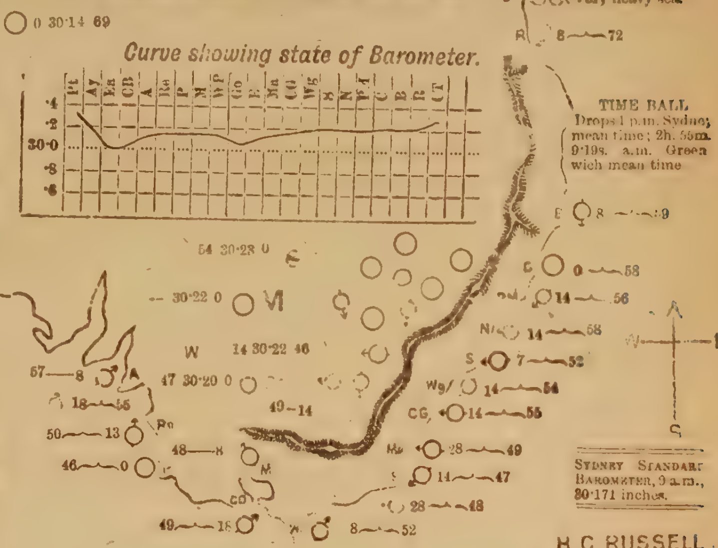
SYDNEY OBSERVATORY.

LATITUDE 33° 51' 41" S. LONGITUDE 10h. 4m. 50·31s. E.

MAGNETIC VARIATION, 9° 35' 37" E.

Average Annual Rainfall for 28 years .... 49·489
Average for 29 years from Jan. 1 to JULY 31 1887 .. 25·222
Total Rainfall from Jan. 1, to Aug. 16 1887 ...... 42·922

Barometers corrected to 32° Fah. and Mean Sea Level



H. C. RUSSELL,
GOVERNMENT ASTRONOMER.

NOTES EXPLANATORY OF MAP.

In the list of stations the column headed W.T. gives the state of the weather at 9 a.m., b standing for blue sky; c, detached clouds; d, drizzling rain; f, fog; g, gloomy; h, hazy; m, misty; n, frosty; o, overcast; p, passing showers; r, rain; s, snow; t, thunder; u, threatening. The next column, M'x gives the maximum temperature for previous 24 hours. M'n the corresponding minimum temperature. R'n, the rain for the previous 24 hours. The symbols used in the map are explained on the margin. At each coast station the wind symbol is placed like a vane pointing to the direction from which the wind is coming. A clear circle with it means fine weather; a circle with bar, cloudy weather; and a black spot, raining. Next to this symbol are placed figures denoting the number of miles the wind is moving per hour. Next, a symbol showing the state of the sea; and, lastly, figures denoting the shade temperature at 9 a.m. The barometer curve shows the state of barometers round the coast from Perth to Cooktown:- Pt, Perth; Ay, Albany; Ea, Eucla; CB, Cape Borda; A, Adelaide; Re, Robe; P, Portland; M, Melbourne; W P, Wilson's Promontory; Go, Gabo; E, Eden; Ma, Moruya; C G Jervis Bay; Wg, Wollongong; S, Sydney; N, Newcastle; P M, Port Macquarie; C, Clarence River, B, Brisbane; R, Rockhampton; Ct, Cooktown. Inland the state of barometer is given in figures at Albury, Deniliquin, Wentworth, Menindie, Bourke, and Alice Springs. The barometer curve enables one at a glance to trace the depressions, beginning with Western Australia, and passing along eastwards; northerly winds preceding them, and southerly following.

The rainfall on Sundays or holidays, when this map is not published, is in all cases included in the quantities shown by the next following map.

9 A.M. OBSERVATIONS.

Western Australia.—Fine in north parts, with light easterly winds and smooth sea; cloudy and gloomy in south, with fresh to strong S.E. to S.W. winds, and moderate to rough sea. Squally at Albany. Rainfall: Albany, 0·57; Perth, 0·47; and Geraldton, 0·02 inch. Extremes of barometers and temperature: Perth, 30·29 and 47°; Cossack, 30·11 and 73°.

South Australia.—Generally fine and pleasant, in parts frosty, but overcast and gloomy between Blinman and Peake; winds very light, N. to N.E. and calms; sea smooth to moderate. no rain reported. barometers almost steady. Extremes of barometers and temperature: Alice Springs, 30·14; Eucla, 29·98; Port Darwin, 75°; and Cape Northumberland, 46°.

Victoria.—Generally fine, with light variable, chiefly N. to E., winds and calms, sea smooth. Rainfall: Echuca, 0·12; and Portland, 0·01in. Extremes of barometers and temperature: Ballarat, 30·20; Portland, 30·09; Omeo, 41°; and Horsham, 56°.

Tasmania.—Generally fine, with fog and mist on the north coast; light variable, chief S. to E., winds; moderate to rough sea. Rainfall: 0·03in. at Circular Head. Exrtemes of barometers and temperature: Low Heads, 30·15; Falmouth, 30·12 and 48°; and Hobart, 44°.

New Zealand.—Generally fine, with light southerly winds. Barometers: Generally at 30·40.

New South Wales.—Generally fine and clear, but cloudy at places in the pastoral districts of the South Lachlan and the Murrumbidgee. Snowing at Kiandra; frosty and foggy at scattered places; winds, generally very light, chiefly westerly and calms. Sea smooth to moderate. During the previous 24 hours light rains fell in the Murrumbidgee and South Lachlan pastoral districts; heaviest, 0·86 inch, at Hay. Extra Stations: Yetman, fine and clear; Gabo Island, max. 58°, min. 46°. Extremes of barometers and temperature: Walgett, 30·23; Gabo Island, 30·03; Clarence and Newcastle, 58°; Goulburn, 36°. For further particulars, see map.

Queensland.—Generally fine, clear, and cool, with light S. to E. winds and calms, risen barometers, and smooth to moderate sea. Rainfall at Brisbane, 0·01 inch. Extremes of barometers and temperature: Cooktown, 30·25 and 72°; Rockhampton, 30·16, and Roma, 50°.

3 P.M. OBSERVATIONS.

South Australia.—Adelaide, N., 13, fine, temperature 65°.

Victoria.—Portland, N., 13, fine, smooth sea, temperature 63°; Cape Otway, S.E., 13, fine, smooth sea, temperature 59°; Melbourne, S.W., 8, fine, temperature 56°; Omeo, calm, light rain, temperature 51°; Cape Schanck, E., 8, fine but cloudy, smooth sea, temperature 56°; Wilson's Promontory, N.E., 13, fine, smooth sea, temperature 54°; Lakes Entrance, calm, cloudy and foggy, temperature 55°.

New South Wales.—Menindie, calm, fine, temperature 64°; Wentworth, N.W., 14, fine, temperature 56°; Deniliquin, calm, fine but cloudy, temperature 64°; Eden, N.E., 14, fine, light east sea, temperature 55°; Moruya, N.E., 28, cloudy and dull, smooth sea, temperature 58°; Cape St. George, calm, fine but cloudy, smooth sea, temperature 62°; Sydney, E.S.E., 10, fine and pleasant, smooth sea, temperature 60°; Newcastle, N.E., 14, fine, smooth sea, temperature 64°; Port Macquarie, S., 28, fine, smooth sea, temperature 69°; Clarence River, E., 14, fine, smooth sea, temperature 67°; Walgett, W., 14, fine and warm, temperature 69°; Dubbo, W., 14, fine, temperature 65°.

Queensland.—Hughenden, calm, fine and hot; Cooktown, S.E., 8, fine, slight sea, temperature 75°; Townsville, S.E., 18, fine, smooth sea, temperature 73°; Blackall, calm, fine and clear; Rockhampton, S., 13, fine, temperature 72°; Roma, S., 8, fine, temperature 72°; Cape Moreton, E., 8, fine, temperature 66°; Brisbane, N.N.E., 13, fine but cloudy, temperature 72°; Boulia, N.E., 18, fine and warm.

HEIGHT OF RIVERS ABOVE SUMMER LEVEL.

Macintyre: At Mungindi (rising), 8ft. Barwon: At Mogil Mogil (rising), 7ft.; at Walgett (rising), 15ft. 6in. Namoi: At Walgett (rising), 8ft.. Culgoa: At Goodooga (falling), 2ft. 11in.; Darling: At Brewarrina (falling), 9ft.; at Bourke (falling), 22ft.; at Louth (rising), 24ft. 3in.; at Tilpa (rising), 28ft. 3in.; at Wilcannia (rising), 27ft. 4in.; at Menindie (rising), 20ft. 10in.; at Pooncarie (rising), 18ft. at Wentworth, 17ft. Murrumbidgee: At Gundagai (rising), 17ft.; at Wagga, 15ft. 6in.; at Hay 15ft. 6in.; at Balranald, 16ft. 6in. Murray: At Albury, 8ft. 6in.; at Euston, 19ft. 4in.

ASTRONOMICAL MEMORANDA FOR AUGUST 17.

Sun rises at 6.38, sets at 5.30; Moon, 4.55 a.m., 3.7 p.m.; Mercury, 5.40 a.m., 4.3 p.m.; Venus, 8.11 a.m., 8.39 p.m.; Mars, 5.3 a.m., 2·58 p.m.; Jupiter, 9.46 a.m., 10·47 p.m.; Saturn, 5.21 a.m., 3.28 p.m. Full moon, August 4. New moon, August 19.

High water at Fort Denison, August 17: 6.25 a.m., 6.55 p.m.

H. A. LENEHAN,
Acting Government Astronomer.

METEOROLOGICAL REPORTS AND MAP FOR AUGUST 17, 1887.

SYDNEY OBSERVATORY

LATITUDE 33° 51' 41" S. LONGITUDE 10h. 4m. 50·2s. E.

MAGNETIC VARIATION, 9° 35' 37" E.

Average Annual Rainfall for 29 years . . . 49·484

Average for 29 years from Jan. 1 to JULY 31 1887 . 35·292

Total Rainfall from Jan. 1, to Aug. 17 1887 . 42·929

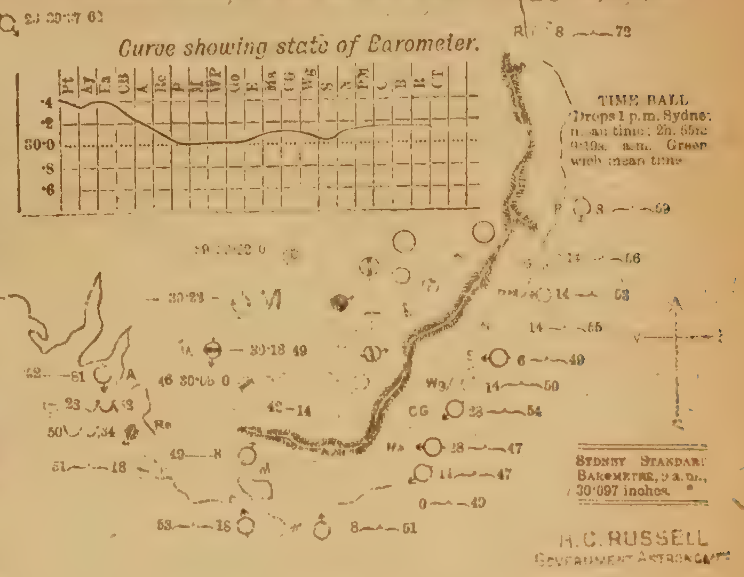
Barometers corrected to 32° Fah. and Mean Sea Level

○ Fine. ◐ Cloudy, wind S. ⊖ stormy, wind S. ⊕ wind W. If it is calm, the symbol used without the arrow. ~ Smooth sea. ~~ Heavy sea. ~~~ Very heavy sea.

Stations.	wt	Mx	m	Rn.
Albury	f	63	42	0
Armidale	b	59	38	0
Balranald	u	78	45	0·04
Bathurst	f	63	30	0
Beadem'r	b	62	39	0
Bodalla	b	68	40	0
Bourke	r	77	56	0
Buncarra	b	—	40	0
C'md'n H.	b	66	48	0
C. St. Geo.	b	66	48	0
Carcoar	g	55	31	0
Casino	b	76	49	0
Cassilis	o	62	41	0·02
Clarence	b	74	53	0
C'nd'b'lin	r	70	46	0·10
Cooma	f	61	29	0·08
Coonab'n.	g	72	36	0
Cowra	c	67	39	0
Cudg'llico	r	70	44	0·10
Deniliq'n.	g	69	35	0
Dubbo	r	71	38	0·20
Eden	b	58	42	0·01
Euston	u	81	43	0
Forbes	r	—	45	0·03
Glen Inn's	b	63	34	0
Goulburn	b	62	31	0

8—53 EUCLA

Stations.	wt	Mx	m	Rn.
Grafton	b	74	46	0
Gulgong	c	60	33	0
Gunned'h	c	62	44	0
Hay	r	63	42	0·27
Inverell	b	59	37	0
Kiandra	f	44	10	0
Lismore	b	82	50	0
Maitland	b	65	46	0·04
M'n'ng H.	b	63	43	0·02
Marsdens.	b	67	47	0·06
Menindie.	u	71	50	0
Molong	c	61	34	0·01
M'r'ng'r'll	r	66	39	0
Moree	b	79	45	0
Moruya	b	63	41	0
Moss Vale	b	56	39	0·03
Mt. Hope	c	73	54	0·35
M. Vict'ria	b	56	39	0
Mudgee	c	73	32	0
M'rr'mb'h	f	73	36	0
M'rr'r'ndi	b	61	44	0
Mus'lbr'k	b	61	39	0
Narrabri	u	70	44	0
Newcastle	f	70	47	0
Orange	g	55	35	0·10
Picton	f	61	38	0
P. M'q'rie	b	66	43	0
P. St'ph'n	b	65	44	0
Q'nbeyan	b	58	39	0
Quirindi	b	76	45	0·12
Singleton	b	64	48	0·10
SYDNEY	b	60	46	0
Taralga	b	69	28	0
Taree	b	71	46	0
T'nt'rfield	b	67	36	0
Wagga	g	65	32	0
Walcha	b	57	32	0·09
Walgett	g	69	49	0
Warrah	b	65	—	0
W'ntw'rth	u	71	45	0·02
W'll'ng'ng	b	66	42	0·10
Young	g	77	34	0



NOTES EXPLANATORY OF MAP.

In the list of stations the column headed W.T. gives the state of the weather at 9 a.m., b standing for blue sky; c, detached clouds; d, drizzling rain; f, fog; g, gloomy; h, hazy; m, misty; n, frosty; o, overcast; p, passing showers; r, rain; s, snow; t, thunder; u, threatening. The next column, Mx gives the maximum temperature for previous 24 hours. M'n the corresponding minimum temperature, Rn, the rain for the previous 24 hours. The symbols used in the map are explained on the margin. At each constellation the wind symbol is placed like a vane pointing to the direction from which the wind is coming. A clear circle with it means fine weather, a circle with bar, cloudy weather; and a black spot, raining. Next to this symbol are placed figures denoting the number of miles the wind is moving per hour, next, a symbol showing the state of the sea; and, lastly, figures denoting the shade temperature at 9 a.m. The barometer curve shows the state of barometers round the coast from Perth to Cooktown: Pt, Perth; Ay, Albany, Ea, Eucla, CB, Cape Borda; A, Adelaide; Re, Robe; P, Portland, M, Melbourne; WP, Wilson's Promontory; Go, Gabo, E, Eden, Ma, Moruya, CG Jervis Bay; Wg, Wollongong, S, Sydney, N, Newcastle, PM, Port Macquarie; C, Clarence River, B, Brisbane; R, Rockhampton; Ct, Cooktown. Inland the state of barometer is given in figures at Albury, Deniliquin, Wentworth Menindie, Bourke, and Alice Springs. The barometer curve enables one at a glance to trace the depressions, beginning with Western Australia, and passing along eastwards; northerly winds preceding them, and southerly following.

The rainfall on Sundays or holidays, when this map is not published, is in all cases included in the quantities shown by the next following map.

9 A.M. OBSERVATIONS.

Western Australia.—Generally fine, with fresh to strong E. winds along the west coast; unsettled, with fresh N.W. winds in south parts. Heavy showers at Esperance Bay yesterday. The sea is moderating. Extremes of barometers and temperature: Perth, 30·40 and 41°; Cossack, 30·13 and 73°.

South Australia.—Partially clouded generally, but otherwise fine; in parts showery or raining lightly. Light to fresh and at places strong W. to S. winds; rough sea. Rainfall has been recorded south of about Peake; Greenock, 0·25; Crafers, 0·22; Nairne, 0·28; Beachport, 0·21 inch; and smaller quantities at other places. Extremes of barometers and temperature: Eucla, 30·40; Port Darwin, 30·01 and 75°; Robe, 50°.

Victoria.—Generally fine but unsettled, and raining lightly in N.W. parts, light northerly winds, smooth to moderate sea. Rainfall: 0·25in. at Horsham. Extremes of barometers and temperature: Ballarat, 30·09; Portland, 30·00; Horsham and Echuca, 55°; Omeo, 38°.

Tasmania.—Generally fine, with fog on the north coast, light north to east winds, slight sea. Extremes of barometers and temperature: Low Heads, 30·07° and 43°; Falmouth, 30·00 and 47°.

New Zealand.—Showery from S.E. in extreme north parts; fine, with N. to E. winds to southward. Barometers: In north, 30·3; to southward, 30·4.

New South Wales.—Fine in east and north-east parts; cloudy, gloomy, and unsettled over the remainder of the colony, with showery weather in the Lachlan pastoral district, and a few places in the Bligh and South Warrego. Fogs and frosts are reported from the high lands. Winds are generally very light, variable, and at places calm, except on the Lower Darling, where stormy southerly weather prevails. During the previous 24 hours light rain fell in south and south-east parts, but very scattered. Extremes of barometers and temperature: Walgott, 30·22; Gabo Island, 30·03; Bourke, 59°; and Kiandra, 25°. For further particulars, see map.

Queensland.—Generally fine, and cool, with light N.E. to S.E. winds and calms, slightly lower barometers, and smooth to moderate sea. No rain reported. Extremes of barometers and temperature: Normanton, 30·16; Brisbane, 30·13; Cooktown, 73°; and Roma, 52°.

3 P.M. OBSERVATIONS.

Victoria.—Portland, S.S.W., 28, cloudy and showery, smooth sea, temperature 54°; Cape Otway, N.W., 28, fine, smooth sea, temperature 57°; Melbourne, S., 8, fine, temperature 57°; Omeo, calm, cloudy, temperature 55°; Cape Schanck, N.W., 8, fine but cloudy, smooth sea, temperature 57°; Wilson's Promontory, W.S.W., 13, fine but cloudy, smooth sea, temperature 54°; Lakes Entrance, E., 18, fine, temperature 56°.

New South Wales.—Menindie, S.W., 42, stormy, temperature 59°; Wentworth, S.W., 42, fine but cloudy, temperature 52°; Deniliquin, W., 42, cloudy and dull, temperature 60°; Eden, N.E., 14, fine, light east sea, temperature 56°; Moruya, E.S.E., 28, dull, moderate sea, temperature 56°; Cape St. George, S., 14, fine, smooth sea, temperature 60°; Sydney, S., 5, cloudy and gloomy, smooth sea, temperature 60°; Newcastle, S.E., 14, fine, smooth sea, temperature 62°; Port Macquarie, E., 14, fine but cloudy, smooth sea, temperature 68°; Clarence River, E., 14, fine, smooth sea, temperature 68°; Walgett, N.N.E., 14, fine and warm, temperature 71°; Dubbo, S., 14, cloudy and showery, temperature 61°; Goulburn, calm, fine.

Queensland.—Normanton, S.E., 13, sultry and cloudy, temperature 100°; Townsville, calm, fine, smooth sea, temperature 65°; Rockhampton, S.E., fine, temperature 72°; Roma, calm, fine, temperature 78°; Cape Moreton, W.N.W., 13, fine, temperature 70°; Brisbane, W.S.W., 8, fine, temperature 76°.

HEIGHT OF RIVERS ABOVE SUMMER LEVEL.

Macintyre: At Yetman (stationary), 5ft.; at Mungindi (rising), 9ft. Barwon: At Mogil Mogil (rising), 8ft.; at Walgett (rising), 17ft. Namoi: At Walgett (rising), 9ft. 4in. Culgoa: At Goodooga (falling), 2ft. 10in. Darling: At Brewarrina (rising), 9ft.; at Bourke (falling), 20ft. 6in.; at Louth (rising), 24ft. 5in.; at Tilpa (rising), 28ft. 5in.; at Wilcannia (rising), 27ft. 7in.; at Menindie 21ft. 2in.; at Pooncarie 19ft. 3in.; at Wentworth, 17ft. 3in. Murrumbidgee: At Gundagai (falling), 16ft. 6in.; at Wagga, 18ft. 6in.; at Hay (rising), 16ft. 6in.; at Balranald, 16ft. 6in. Murray: At Albury, 9ft.; at Euston, 19ft. 7in.

ASTRONOMICAL MEMORANDA FOR AUGUST 18.

Sun rises at 6.37, sets at 5.31; Moon, 5.47 a.m., 4.9 p.m.; Mercury, 5.41 a.m., 4.4 p.m.; Venus, 8.7 a.m., 8.37 p.m.; Mars, 5.1 a.m., 2.57 p.m.; Jupiter, 9.42 a.m., 10.44 p.m.; Saturn, 5.17 a.m., 3.24 p.m. Full moon, August 4. New moon, August 19.

High water at Fort Denison: 7.21 a.m., 7.47 p.m.

H. A. LENEHAN,
Acting Government Astronomer.

METEOROLOGICAL REPORTS AND MAP FOR AUGUST 18, 1887.

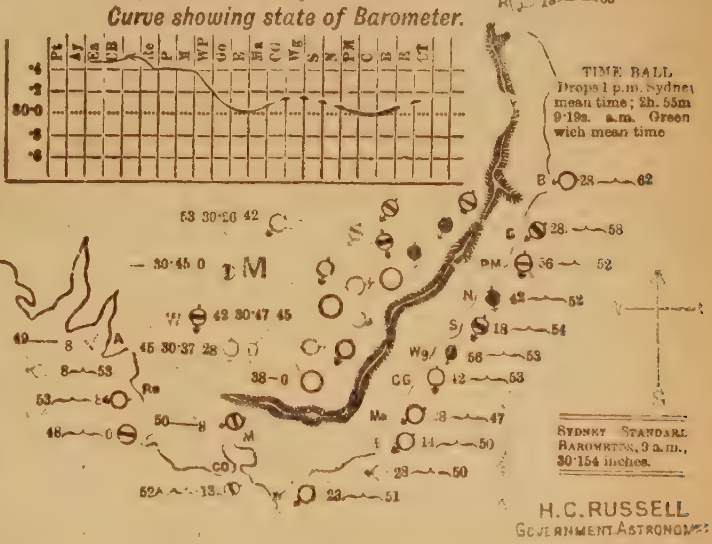
Stations.	wt	Mx	Mn	Rn
Albury ..	n	58	35	0
Armidale	u	57	42	0·12
Balranald	b	65	33	0
Bathurst	b	47	34	0·33
Bendem'r	u	55	44	0·28
Bodalla ..	b	60	40	0
Bourke ..	b	80	45	0
Buncarra	r	—	46	0·06
C'md'n H.	r	65	53	0·87
C. St. Geo.	b	67	49	0
Carcoar ..	b	50	31	0·45
Casino ..	b	77	47	0
Cassilis .	c	59	50	0·93
Clarence .	c	74	53	0·02
C'nd'b'lin	o	71	47	0·30
Cooma ..	n	59	32	0
Coonab'n.	b	66	42	0·22
Cowra ..	b	61	37	0·64
Cudg'llico	b	65	42	0·28
Deniliq'n.	b	61	32	0·04
Dubbo ..	b	66	42	0·97
Eden	b	56	44	0
Euston ..	b	63	40	0
Forbes ..	b	—	43	0·70
Glen Inn's	u	64	33	0
Goulburn	b	56	31	0·06
Grafton ..	u	75	50	0·01
Gulgong .	b	55	36	0·80
Gunned'h	b	62	46	0·30
Hay ..	b	63	40	0·29
Inverell..	r	58	44	0
Kiandra..	n	51	28	0
Lismore	b	81	51	0
Maitland.	u	64	49	1·04
M'r'ag H.	u	64	52	1·09
Mardens.	u	67	46	0·13
Menindie.	b	58	46	0
Molong ..	b	58	36	0·48
M'r'ag'r'll	b	57	41	0·24
Moree ..	g	73	44	0
Moruya ..	b	60	42	0
Moss Vale	b	55	41	0·24
Mt. Hope	c	66	49	0
M. Vict'ria	b	53	35	0·21
Mudgee..	b	64	36	0·70
M'rr'mb'h	b	53	35	0
M'rr'r'ndi	u	58	46	0·91
Mus'lbr'k	r	62	45	0·73
Narrabri	c	65	45	0·06
Newcastle	r	67	49	1·44
Orange ..	b	50	38	0·68
Picton ..	b	61	39	0·13
P. M'q'rie	c	66	49	1·08
P. St'ph'n	c	62	47	0·83
Q'nbeyan	n	58	39	0
Quirindi	r	65	47	0·44
Singleton	u	62	51	1·08
SYDNEY ..	c	62	50	0·40
Tasalga ..	b	65	36	0
Taree	r	68	50	0·76
T'nt'rfield	u	65	38	0
Wagga ..	f	59	29	0·05
Walcha ..	r	57	36	0·32
Walgett	c	70	46	0
Warrah ..	r	63	—	0·76
W'ntw'rth	c	59	40	0·01
W'll'ng'ng	r	66	46	0·46
Young ..	b	54	36	0·18

SYDNEY OBSERVATORY.

LATITUDE 33° 51' 41" S. LONGITUDE 10h. 4m. 50·21s. E.
MAGNETIC VARIATION, 9° 35' 27" E.

Average Annual Rainfall for 28 years .... 49·489
Average for 29 years from Jan. 1 to JULY 31 1887 .. 35·222
Total Rainfall from Jan. 1 to Aug. 18 1887 .... 47·329
Barometers corrected to 32° Fah. and Mean Sea Level

Fine, wind N. Cloudy wind E. T. storm, wind S. Rain, wind W.
If it is calm, the symbol used without the arrow
Smooth sea.
Heavy sea
Very heavy sea



TIME BALL.
Drops 1 p.m. Sydney mean time; 2h. 55m 9·19s. a.m. Greenwich mean time

SYDNEY STANDARD BAROMETER, 9 a.m., 30·154 inches.

H. C. RUSSELL
GOVERNMENT ASTRONOMER

NOTES EXPLANATORY OF MAP.

In the list of stations the column headed W.T. gives the state of the weather at 9 a.m., b standing for blue sky, c detached clouds, ... fog, g gloomy, ... m, misty, n, frosty; o, overcast; p, passing showers, r, rain, s, snow, t, thunder, ... threatening. The next column, Mx gives the maximum temperature for previous ... hours. Mn the corresponding minimum temperature, Rn the rain for the previous 24 hours. The symbols used in the map are explained on the margin. At each coast station the wind symbol is placed like a vane pointing to the direction from which the wind is coming. A clear circle with it means fine weather, a circle with bar, cloudy weather; and a black spot, raining. Next to this symbol are placed figures denoting the number of miles the wind is moving per hour; next, a symbol showing the state of the sea; and, lastly, figures denoting the shade temperature at 9 a.m. The barometer curve shows the state of barometers round the coast from Perth to Cooktown: Pt, Perth; Ay, Albany; Ea, Eucla; CB, Cape Borda; A, Adelaide; Re, Robe; P, Portland, M, Melbourne; WP, Wilson's Promontory; Go, Gabo; E, Eden; Ma, Moruya; CG Jervis Bay; Wg, Wollongong, S, Sydney; N, Newcastle; PM, Port Macquarie; C, Clarence River. B, Brisbane; R, Rockhampton; Ct, Cooktown. Inland the state of barometer is given in figures at Albury, Deniliquin, Wentworth, Menindie, Bourke, and Alice Springs. The barometer curve enables one at a glance to trace the depressions, beginning with Western Australia, and passing along eastwards; northerly winds preceding them, and southerly following.

The rainfall on Sundays or holidays, when this map is not published, is in all cases included in the quantities shown by the next following map.

9 A.M. OBSERVATIONS.

Western Australia.—Lines interrupted.

South Australia.—Generally fine over Yorke's Peninsula and north of Burra; over the remainder of the colony fine but cloudy, and in parts frosty; light variable winds and calms smooth to moderate sea. Rainfall: Robe, 0·01in. Extremes of barometers and temperature: Farina, 30·52; Port Darwin, 30·06 and 75°; Cape Northumberland, 48°.

Victoria.—Generally more or less cloudy and unsettled, with light N.W. to S.W. winds, and slight to rather rough sea. Rainfall: 0·06in. at Cape Schanck. Extremes of barometers and temperature: Ballarat, 30·41; Lakes Entrance, 30·22; Horsham, 56°; and Omeo, 40°.

Tasmania.—Generally fine, with scattered clouds; light north and variable winds, smooth sea. Extremes of barometers and temperature: Circular Heads, 30·27; Southport, 30·20 and 51°; Low Heads, 43°.

New Zealand.—Generally fine, clear, and frosty weather, with light N.E. to W.W. winds and calms. Barometers: Generally at 30·30.

New South Wales.—Generally fine, except in north-east parts. It is raining or showery in central coast districts north of Sydney and in the New England pastoral district. In the adjoining districts it is cloudy and gloomy. Winds are generally fresh to strong from S.E. to S.W., and it is blowing in strong squalls along the coast and in north parts. The sea is smooth to moderate, but rising at places. During the previous 24 hours light rains fell generally over the colony, heaviest in coast and mountain districts, between the Hunter and Macleay Rivers. Extra station: Warialda, max. 72°, min 43°, strong W. wind, and cloudy weather. Extremes of barometers and temperature: Wentworth, 30·47; Clarence, 30·00; Lismore, 60°; and Cooma, 32°. For further particulars, see map.

Queensland.—Generally fine, with light to fresh, and at places strong S.E. to S.W. winds; smooth to moderate sea. Extremes of barometers and temperature: Normanton, 30·21 and 73°; Brisbane, 29·97; and Roma, 52°.

3 P.M. OBSERVATIONS.

Victoria.—Omeo, S., 8, fine but cloudy, temperature 48°; Portland, S.W., 16, fine, smooth sea, temperature 56°; Cape Otway, W.N.W., 18, overcast, rough sea, temperature 58°; Melbourne, S.W., 6, overcast, temperature 53°; Cape Schanck, S.S.W., 13, cloudy and dull, smooth sea, temperature 58°; Wilson's Promontory, W.S.W., 23, cloudy, smooth sea, temperature 54°; Lakes Entrance, W.S.W., 23, fine but cloudy, temperature 57°.

South Australia.—Adelaide, W.S.W., 8, overcast, temperature 55°.

New South Wales.—Menindie, S.W., 14, fine and warm, temperature 58°; Wentworth, S., 14, fine, temperature 53°; Deniliquin, S., 14, fine, temperature 60°; Eden, S.W., 42, fine but cloudy, light east sea, temperature 58°; Moruya, S, 42, cloudy, moderate sea, temperature 61°; Cape St. George, S., 56, fine, heavy S.E. sea, temperature 57°; Sydney, S.S.W., 23, fine and squally, moderate sea, temperature 57°; Newcastle, W.S.W., 56, fine, smooth sea, temperature 59°; Port Macquarie, S., 42, cloudy and squally, smooth sea, temperature 60°; Clarence River, S., 56, fine, smooth sea, temperature 62°; Walgett, S., 56, fine, temperature 62°; Dubbo, S., 28, fine, temperature 60°; Goulburn, calm, fine.

Queensland.—Townsville, S., fine, smooth sea, temperature 73°; Rockhampton, S.W., 18, fine, temperature 73°; Roma, S., 13, fine, temperature 64°; Cape Moreton, S.W., 34, fine, temperature 65°; Brisbane, S.W., 23, fine but cloudy, temperature 66°.

HEIGHT OF RIVERS ABOVE SUMMER LEVEL.

Macintyre: At Mungindi (rising), 9ft. 6in. **Barwon**: At Mogil Mogil (rising), 9ft.; at Walgett (rising), 18ft. 4in. **Namoi**: At Walgett (rising), 10ft. 10in. **Culgoa**: At Goodooga (falling), 2ft. 9in. **Darling**: At Brewarrina (rising), 9ft. 2in.; at Bourke (falling), 18ft. 8in.; at Louth (rising), 24ft. 9in.; at Tilpa (rising), 28ft. 6in.; at Wilcannia (rising), 28ft.; at Menindie (rising), 21ft.; at Pooncarie (rising), 18ft. 5in.; at Wentworth, 17ft. 5in. **Murrumbidgee**: At Gundagai (falling), 14ft. 3in.; at Wagga, 19ft. 6in.; at Hay (rising), 17ft.; at Balranald, 16ft. 6in. **Murray**: At Albury, 9ft. 1in.; at Euston, 19ft. 10in.

ASTRONOMICAL MEMORANDA FOR AUGUST 19.

Sun rises at 6.36, sets at 5.31; Moon, 6.36 a.m., 5.16 p.m.; Mercury, 5.42 a.m., 4.5 p.m.; Venus, 8.4 a.m., 8.36 p.m.; Mars, 5 a.m., 2.56 p.m.; Jupiter, 9.39 a.m., 10.41 p.m.; Saturn, 5.13 a.m., 3.21 p.m. Full moon, August 4. New moon, August 19.

High water at Fort Denison: 8.11 a.m., 8.35 p.m.

H. A. LENEHAN,
Acting Government Astronomer.

METEOROLOGICAL REPORTS AND MAP FOR AUGUST 19, 1887

St.	W.	Mx	Mn	Rn
Albury ..	b	[illegible]	37	0
Armidale	b	[illegible]	[illegible]	0
Balranald	b	71	[illegible]	0
Bathurst	u	[illegible]	33	0
Bendem'r	g	[illegible]	33	0
Bodalla ..	g	64	41	0
Bourke ..	b	67	42	0
Bungarra	b	—	39	0
C'md'n H.	b	68	53	0·11
C. St. Geo.	c	60	39	0
Carcoar ..	n	50	31	0
Casino ..	b	63	39	0
Cassilis ..	b	58	40	0
Clarence .	b	71	49	0
C'nd'b'lin	b	70	41	0
Cooma ..	c	52	33	0
Coonab'n.	b	61	36	0
Cowra ..	b	63	36	0
Cuog'llico	b	71	40	0
Deniliq'n.	b	60	29	0
Dubbo ..	b	63	31	0
Eden	b	59	51	0
Euston ..	b	52	32	0
Forbes ..	b	—	43	0
Glen Inn's	b	52	36	0
Goulburn	g	58	35	0
Grafton ..	b	68	46	0
Gulgong .	b	55	33	0
Gunned'h	b	59	38	0
Hay	b	64	37	0
Inverell ..	n	58	33	0
Kiandra ..	n	45	28	0
Lismore .	r	66	45	0·06
Maitland .	c	65	47	0
M'n'ng H.	c	61	45	0·06
Marsdens.	n	61	43	0
Menindie.	b	63	42	0
Molong ..	b	52	32	0
M'r'ng'r'll	b	62	36	0
Moree ..	b	68	40	0
Moruya ..	c	63	46	0
Moss Vale	c	51	43	0
Mt. Hope	b	70	43	0
M. Vict'ria	u	49	35	0
Mudgee ..	b	70	32	0
M'r'mb'h	b	66	32	0
M'r'r'ndi	o	55	43	0·05
Mus'lbr'k	g	62	40	0
Narrabri	b	63	41	0
Newcastle	r	61	51	0·49
Orange ..	b	41	37	0
Picton ..	g	59	46	0
P. M'q'rie	b	61	45	0·07
P. St'ph'n	r	58	46	0·21
Q'nbeyan	b	55	33	0
Quirindi	u	67	40	0·02
Singleton	u	58	51	0
SYDNEY ..	r	58	51	0·13
Taralga ..	u	66	35	0
Taree	g	64	51	0·02
T'nt'rfield	b	55	31	0
Wagga ..	b	62	28	0
Walcha ..	n	48	28	0·02
Walgett	b	62	41	0
Warrah ..	c	61	—	0
W'ntw'rth	b	63	38	0
W'll'ng'ng	c	62	51	0
Young ..	n	60	32	0

MAGNETIC VARIATION, 9° 35′ 37″ E.

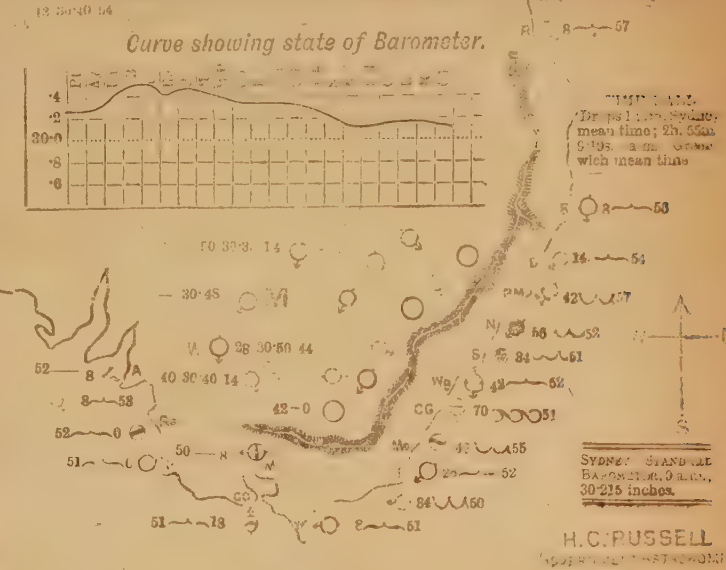
Average Annual Rainfall for 28 years........................48·189

Average for 29 years from Jan. 1 to JULY 31 1887 ... 35·222

Total Rainfall from Jan. 1, to Aug. 19 1887 ...... 46·[illegible]

Barometers corrected to 32° Fah. and Mean Sea Level

If it is CALM, the symbol used without the arrow



NOTES EXPLANATORY OF MAP.

In the list of stations the column headed W.T. gives the state of the weather at 9 a.m., b standing for blue sky; c, detached clouds; d, drizzling rain; f, fog; g, gloomy; h, hazy; m, misty; n, frosty; o, overcast; p, passing showers; r, rain; s, snow; t, thunder; u, threatening. The next column, Mx, gives the maximum temperature for previous 24 hours. Mn the corresponding minimum temperature; Rn, the rain for the previous 24 hours. The symbols used in the map are explained on the margin. At each coast station the wind symbol is placed like a vane pointing to the direction from which the wind is coming. A clear circle with [illegible] blue weather; a circle with bar, cloudy weather; and a black spot, raining. Next to this symbol are placed figures denoting the number of miles the wind is moving per hour; next, a symbol showing the state of the sea; and, lastly, figures denoting the shade temperature at 9 a.m. The barometer curve shows the state of barometer round the coast from Perth to Cooktown: Pt, Perth; Ay, Albany; Ea, Eucla; [illegible], Cape Borda; A, Adelaide; Re, Robe; P, Portland, M, Melbourne; W P, Wilson's Promontory; Go, Gabo; E, Eden; [illegible]; C, Clarence Bay; Wg, Wollongong; S, Sydney; N, Newcastle; PM, Port Macquarie; C, Clarence River; B, Brisbane; R, Rockhampton; Ct, Cooktown. [illegible] of barometer is given in figures at Albury, [illegible], Wentworth, [illegible], [illegible], and Alice Springs. The barometer curve enables one at a glance to trace the depressions, beginning with Western Australia, and passing along eastwards; northerly winds preceding them, and southerly following.

The rainfall on Sundays or holidays, when this map is not published, is in all cases included in the quantities shown by the next following map.

9 A.M. OBSERVATIONS.

Western Australia.—Generally fine, with light north to east winds and calms, smooth to moderate sea; sultry in north parts. Extremes of barometers and temperature: Esperance Bay 30·23, Cossack 29·98 and 74°, Albany 45°.

South Australia.—Generally more or less cloudy, and at places gloomy; light S.E. to N.E. winds and calms, smooth sea. No rain reported. In the Northern territory fine weather with light to fresh S.E. winds. Extremes of barometers and temperature: Adelaide 30·49, Port Darwin 30·05 and 75°, Cape Northumberland 49°.

Victoria.—Generally cloudy and unsettled, with light variable, chiefly north to west, winds and calms; smooth to moderate sea. Rainfall: Omeo, 0·04in.; Cape Otway, 0·07in. Extremes of barometers and temperature: Ballarat, 30·46; Lakes Entrance, 30·34; Horsham, 56°; and Omeo, 42°.

Tasmania.—Generally fine, with light N.W. to S.W. winds; smooth to moderate sea, but rough off Falmouth. Extremes of barometers and temperature: Circular Heads, 30·23 and 50°; Falmouth, 30·26 and 49°.

New Zealand.—Passing showers in extreme north, with a southerly wind. Fine over the centre, with N.E. wind. Gloomy in south, with westerly wind. Barometers: In north, 30.30; to southward, 30·20.

New South Wales.—West of the dividing ranges, fine, clear, but cold weather prevails, with light S.E. to S.W. winds. Along the coast it is stormy, with rain at places in central coast districts; strong, squally, southerly winds, and generally rough sea. During the previous 24 hours light rain fell on the coast and mountains north of Sydney, but partial. Extra stations: Warialda, max. 66°, min. 32°, fine weather; Tamworth, max. 57°, min. 33°, 0·03in. rain, and dull. Extremes of barometers and temperature: Wentworth, 30·50; Gabo Island, 30·24; Port Macquarie, 57°; and Bathurst, 33°. For further particulars see map.

Queensland.—Generally fine and cool, with light to fresh south to south-east winds in north, S.S.W. in south, and smooth to moderate sea. Extremes of barometers and temperature: Rockhampton, 30·19 and 57°; Cooktown, 30·11 and 72°.

3 P.M. OBSERVATIONS.

Victoria.—Portland, S.W., 12, fine but cloudy, smooth sea, temperature 55°; Cape Otway, W.N.W., 18, fine, rough sea, temperature 57°; Melbourne, S.W., cloudy, temperature 55°; Omeo, S.[illegible], fine; Cape Schanck, calm, foggy, moderate sea, temperature 55°; Lakes Entrance, W., 18, fine, temperature 57°.

New South Wales.—Menindie, S.W., 14, fine temperature 58°; Wentworth, S., 14, fine and clear, temperature 56°; Deniliquin, calm, fine, and clear, temperature 61°; Eden, S.W., 14 fine, light east sea, temperature 60°; Moruya, S., 28, cloudy, moderate sea, temperature 58°; Cape St. George, S., 56, raining and blowing a gale, heavy sea, temperature 57°; Sydney, S.S.W., 32, stormy, with passing showers, heavy sea, temperature 54°; Newcastle, S.S.E., 56, showery, heavy sea, temperature 59°; Port Macquarie, S.W., 28, raining, smooth sea, temperature 66°; Clarence River, S.E., 14, fine, smooth sea, temperature 65°; Walgett, E., 14, fine, temperature 65°; Dubbo, S., 14, fine, temperature 60°; Goulburn, S.E., 14, dull; Wilcannia, S.W., 28, fine and clear.

Queensland.—Normanton, S.E., 8, fine and sultry, temperature 96°; Townsville, S.E., fine, moderate sea, temperature 70°; Mackay, S.E., 23, fine and clear; Rockhampton, N., 8, fine and clear, temperature 69°; Roma, S., 8, cloudy, temperature [illegible]; Cape Moreton, S.S.E., 18, fine and clear, temperature 65°.

HEIGHT OF RIVERS ABOVE SUMMER LEVEL.

Macintyre: At Mungindi (falling), 6ft. 6in. Barwon: At [illegible], Mogil (rising), 10ft.; at Walgett (rising), 12ft. Namoi: At Walgett (rising), 12ft. Culgoa: At Goodooga (falling), [illegible]. Darling: At Brewarrina (rising), 9ft. 4in.; at Bourke (rising), 17ft. 8in.; at Louth (rising), 24ft. 11in.; at Tilpa (stationary), 28ft. 6in.; at Wilcannia (rising), 28ft. 1in.; at Menindie, 21ft. 8in.; at Pooncarie, 18ft. 9in.; at Wentworth, 17ft. 7in. Murrumbidgee: At Gundagai (falling), 13ft. 3in.; at Wagga (falling), 17ft.; at Hay (rising), 17ft. 6in.; at Balranald, [illegible] 5in. Murray: At Albury, 8ft. 6in.; at Euston, 20ft. 1in.

ASTRONOMICAL MEMORANDA FOR AUGUST 20.

Sun rises at 6.35, sets at 5.32; Moon, 7.20 a.m., 6.24 p.m.; Mercury, 5.43 a.m., 4.6 p.m.; Venus, 8.0 a.m., 8.34 p.m.; Mars, 4.58 a.m., 2.55 p.m.; Jupiter, 9.35 a.m., 10.39 p.m.; Saturn, 5.9 a.m., 3.17 p.m. Full moon, August 4. New moon, August 19.

High water at Fort Denison: 8.57 a.m., 9.19 p.m.

H. A. LENEHAN,
Acting Government Astronomer.

METEOROLOGICAL REPORTS AND MAP FOR AUGUST 2[illegible], 18[illegible]7.

Stations	W.T.	Mx.	Mn.	R.
Albury ..	b	61	37	0
Armidale	c	54	41	0·47
Balranald	b	72	38	0
Bathurst	b	57	39	0
Bendem'r	c	52	42	0
Bodalla ..	b	61	36	0
Bourke ..	b	69	41	0·[illegible]4
Buncarra	b		55	0
C'nd'n H.	r	67	57	0·13
C. St. Geo.	b	64	51	0
Carcoar ..	b	[illegible]	35	0
Casino ..	b	74	[illegible]	0
Cassilis .	c	[illegible]	[illegible]	0
Clarence .	c	70	57	0·[illegible]
C'nd'b'lin	b	71	4[illegible]	0
Cooma ..	c	60	36	0
Coonab'n.	b	[illegible]5	[illegible]	0
Cowra ..	b	65	38	0
Cudg'lleo	b	75	46	0
Deniliq'n.	b	69	31	0
Dubbo ..	b	67	29	0
Eden	b	6[illegible]	42	0
Euston ..	b	72	35	0
Forbes ..	b	—	45	0
Glen Inn's	b	61	41	0
Goulburn	b	53	3[illegible]	0

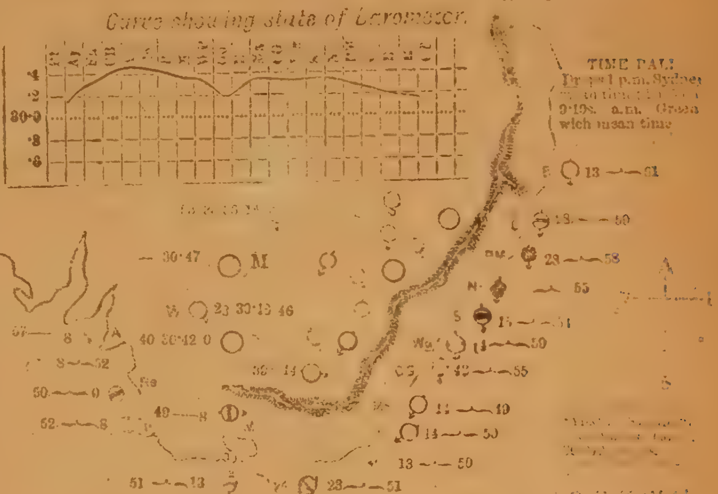
8——58
EUCLA

Grafton ..	u	74	47	0·02
Gulgong .	u	60	38	0
Gunned'h	–	—	—	0
Hay ..	b	64	38	0
Inverell ..	b	60	40	0
Kiandra ..	n	60	22	0
Lismore .	b	75	54	0
Maitland .	r	65	47	0·56
M'n'ng H.	b	62	49	0·33
Marsdens.	n	62	45	0
Menindie.	b	61	41	0
Molong ..	b	55	[illegible]3	0
M'r'ng'r'll	b	62	35	0
Moree ..	b	75	44	0
Moruya ..	b	60	42	0
Moss Vale	u	47	44	0·08
Mt. Hope	b	54	43	0
M. Vict'ria	m	43	38	0
Mudgee ..	c	67	40	0
M'rr'mb'h	b	68	34	0
M'rr'r'ndi	o	52	47	0·09
Mus'lbr'k	g	62	42	0·12
Narrabri	b	66	44	0
Newcastle	r	64	51	0·75
Orange ..	b	52	46	0
Picton ..	b	58	44	0
P. M'q'rie	r	65	53	0·50
P. St'ph'n	r	62	50	0·87
Q'nbeyan	b	59	37	0
Quirindi	b	58	42	0
Singleton	g	55	52	0·12
SYDNEY ..	c	55	51	0·55
Taralga ..	g	59	34	0
Taree	g	66	55	1·46
T'nt'rfield	b	64	42	0·04
Wagga ..	b	65	28	0
Walcha ..	u	53	36	0·05
Walgett	b	65	46	0
Warrah ..	c	58	—	0·56
W'ntw'rth	b	65	40	0
W'll'ng'ng	g	58	44	0·05
Young ..	b	76	35	0

SYDNEY OBSERVATIONS.

Latitude 33° 51' 41" S. Longitude 10h. 4m. [illegible] E.
Magnetic Variation, 9° 35' 37" E.
Average Annual Rainfall for [illegible] years .... 49·449
Average of [illegible] years from Jan. 1 to JULY 31 [illegible] ... [illegible]
Total Rainfall from Jan. 1 to Aug. 2, 1887 ..... 44·012

[illegible] wind E. [illegible] W. [illegible]
[illegible] storm, [illegible]
wind [illegible]
[illegible] the sym[illegible]
[illegible]
Smooth sea.
Heavy sea.
Very heavy sea.



H. C. RUSSELL,
Government Astronomer.

NOTES EXPLANATORY OF MAP.

In the list of stations the column headed W.T. gives the state of the [illegible] standing for [illegible]; c, cloudy; d, drizzling rain; [illegible] fog; g, [illegible]; h, [illegible]; m, misty; n, frosty; o, overcast; p, passing showers; r, rain; s, snow; t, thunder; u, threatening. The next column [illegible] the maximum temperature [illegible] hours. Then the corresponding [illegible] temperature [illegible] hours. The symbols [illegible] are explained in the margin. At each [illegible] station the wind symbol is placed [illegible], pointing to the direction from which the wind is coming. A clear circle with it means fine weather; a circle with bar, cloudy weather; and a black spot, raining. Next to this symbol are placed figures denoting the number of miles the wind is moving per hour; next, a symbol showing the state of the sea; and, lastly, figures denoting the shade temperature at 9 a.m. The barometer curve shows the state of barometers round the coast from Perth to Cooktown:—Pt, Perth; Ay, Albany; Eu, Eucla; CB, Cape Borda; A, Adelaide; Re, Robe; P, Portland; M, Melbourne; W P, Wilson's Promontory; Go, Gabo; E, Eden; Ma, Moruya; C G, Jervis Bay; Wg, Wollongong; S, Sydney; N, Newcastle; P M, Port Macquarie; C, Clarence River; B, Brisbane; R, Rockhampton; Ct, Cooktown. [illegible] the state of barometer is given in figures at Albury, [illegible], Wentworth, [illegible], Bourke, and [illegible] Springs. The barometer curve enables one at a glance to trace the depressions, beginning with Western Australia, and passing along eastwards, northerly winds preceding them, and southerly following.

The rainfall on Sundays or holidays, when the map is not published, is in all cases included in the quantities shown by the next following map.

9 A.M. OBSERVATIONS.

Western Australia.—Fine and clear in the north, cloudy, dull, and threatening south of Germanton, with light easterly winds and calms, and smooth sea. Extremes of barometers and temperature: Esperance Bay 30·15, 51°; Carnarvon, 30·01; Ashburton, 73°.

South Australia.—Generally fine inland, more or less cloudy and gloomy on the coast and Mount Lofty Ranges; light N.E. to S.E. winds and calms, smooth sea. Rainfall: Robe 0·06, and Cape Borda 0·07 inches. No reports from Central Australia and Northern Territory. Extremes of barometers and temperature: Cape Northumberland 30·34 and 50°, Eucla 30·23 and 55°.

Victoria.—Generally cloudy and gloomy, with light variable winds and calms; smooth to moderate sea, but rather rough off Cape Otway; squally in the straits, foggy at Melbourne and Omeo. Extremes of barometers and temperature: Ballarat, 30·45; Lakes Entrance, 30·33; Horsham, 57°; and Omeo, 36°.

Tasmania.—Generally fine, but unsettled, with fresh N.W. to S.W. winds and moderate sea. Extremes of barometers and temperature: Circular Heads, 30·32; Southport, 30·26 and 54°; Falmouth, 42°.

New Zealand.—Generally fine, with S. E. to N. E. winds in the North Island, and N. W. winds in extreme south parts. Barometers: In south, 30·30, over the centre 30·10; and in north, 30·20.

New South Wales.—Generally fine, clear, and cool, except in north coast districts, where it is cloudy and gloomy, with showers between Newcastle and Port Macquarie. Winds, inland light south to easterly and calms, along the coast fresh south to south-westerly. The sea is moderating, but still rough off Port Stephens. During the previous 24 hours light rains fell on and near the coast from Wollongong northwards. Extremes of barometers and temperature: Wentworth, 30·48; Clarence, 30·25 and 59°; Kiandra, 32°. Rainfall recorded from Saturday morning at 9 a.m. until Sunday evening, 0·270in. For further particulars see map.

Queensland.—Generally fine, but more or less cloudy and unsettled in south-east parts; light south to east winds; smooth to moderate sea. Extremes of barometers and temperature: Townsville, 30·23; Cooktown, 30·15 and 74°; Roma, 53°.

3 P.M. OBSERVATIONS.

New South Wales.—Menindie, S.W., 14, fine, temperature 58°; Wentworth, W.S.W., 14, fine, temperature [illegible]; Deniliquin, calm, fine, and clear, temperature 61°; Eden, E., 14, fine, smooth sea, temperature 57°; Moruya, S.E., 28, fine, smooth sea, temperature 63°; Cape St. George, S., 42, fine moderate sea, temperature 59°; Sydney, S.E., 42, cloudy, moderate sea; Newcastle, S.S.E., 42, raining, moderate sea, temperature 54°; Port Macquarie, S.E., 42, fine, moderate sea, temperature 57°; Clarence River, S., 42, fine, moderate sea, temperature [illegible]; Walgett, S.E., fine, temperature 63°; Dubbo, S., 42, fine, temperature 62°; Goulburn, S.E., 14, fine.

Queensland.—Burketown, S.E., fine; Thargomindah, S.E., fine.

HEIGHT OF RIVERS ABOVE SUMMER LEVEL.

Macintyre: At Mungindi (falling), 8ft. Barwon: At Mogil Mogil (rising), 15ft.; at Walgett (rising), 20ft. 6in. Namoi: At Walgett (rising), 13ft. 4in. Culgoa: At Goodooga (falling), 2ft 7in. Darling: At Brewarrina (rising), 3ft. 6in.; at Bourke (falling), 16ft. 6in.; at Louth (falling), 24ft.; at [illegible] (falling), 28ft. 3in.; at Wilcannia (rising), 23ft. 6in.; at Menindie (rising), 21ft. 11in.; at Pooncarie (rising), 1[illegible]ft. 1[illegible]in.; at Wentworth (rising), 17ft. 9in. Murrumbidgee: At Gundagai (falling), 12ft.; at Wagga (falling), 14ft. 6in.; at Hay (rising), 17ft 10in.; at Balranald (rising), 16ft. 5in. Murray: At Albury (rising), 8ft.; at Euston (rising), 20ft. 4in.

ASTRONOMICAL MEMORANDA FOR AUGUST 22.

Sun rises at 6.33, sets at 5.33; Moon, 8.42 a.m., [illegible] p.m., Mercury, 5.45 a.m., 4.11 p.m.; Venus, 7.53 a.m., 8.[illegible] p.m., Mars, 4.55 a.m., 2.51 p.m.; Jupiter, 9.28 a.m., 10.31 p.m.; Saturn, 5.3 a.m., 3.11 p.m. Full moon, August 4. New moon August 19.

High water at Fort Denison: 10.21 a.m., 10.41 p.m.

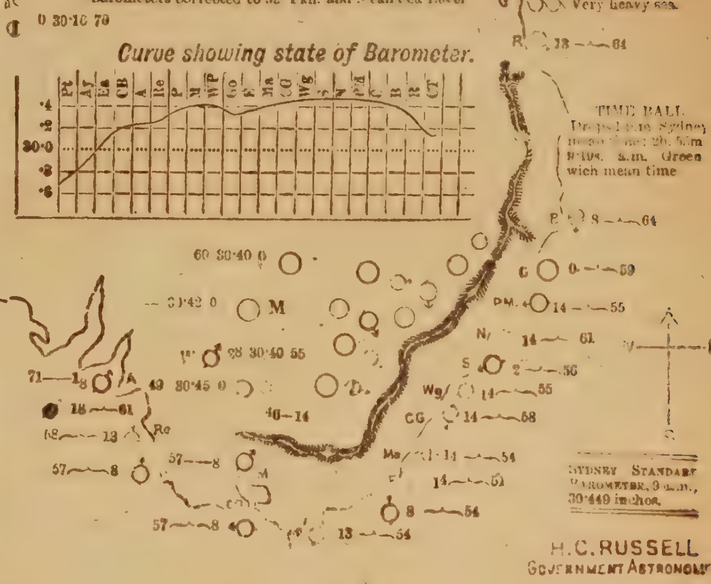
H. A. LENEHAN,
Acting Government Astronomer.

METEOROLOGICAL REPORTS AND MAP FOR AUGUST 24, 1887.

Stations.	W.T.	Mx	Mn	Rn.
Albury ..	b	61	43	0
Armidale	f	61	45	0·05
Balranald	b	81	38	0
Bathurst	b	61	34	0
Bendem'r	b	59	37	0
Bodalla ..	g	59	44	0
Bourke ..	b	82	49	0
Bungarra	b	—	33	0
C'md'n H.	b	68	54	0
C. St. Geo.	b	64	53	0
Carcoar ..	b	55	36	0
Casino ..	b	75	45	0
Cassilis ..	f	63	43	0
Clarence ..	b	75	54	0
C'nd'b'lin	c	69	46	0
Cooma ..	n	57	32	0
Coonab'n.	b	71	34	0
Cowra ..	b	60	41	0
Cudg'llico	o	58	45	0
Deniliq'n.	b	81	34	0
Dubbo ..	b	69	40	0
Eden	c	60	50	0
Euston ..	b	75	44	0
Forbes ..	b	—	45	0
G'bo Isl'nd	b	60	46	0
Glen Inn's	b	65	50	0
Goulburn	g	57	36	0
Grafton ..	b	75	51	0
Gulgong ..	b	60	37	0
Gunned'h	b	69	45	0
Hay	b	69	42	0
Inverell ..	b	64	42	0
Kiandra ..	g	49	25	0
Lismore ..	b	73	51	0
Maitland ..	f	67	51	0
M'n'ng H.	b	66	48	0
Marsdens.	c	62	46	0
Menindie.	b	75	48	0
Molong ..	b	46	35	0
M'r'ng'r'll	b	64	41	0
Moree ..	b	78	48	0
Moruya ..	g	63	50	0
Moss Vale	b	57	46	0
Mt. Hope	b	79	58	0
M. Vict'ria	b	58	39	0
Mudgee ..	b	65	34	0
M'rr'mb'h	–	—	—	–
M'rr'r'ndi	b	61	45	0
Mus'lbr'k	f	63	44	0
Narrabri	c	73	51	0
Newcastle	f	64	54	0
Orange ..	b	57	33	0
Picton ..	b	65	43	0
P. M'q'rie	f	66	51	0
P. St'ph'n	f	64	46	0
Q'nbeyan	n	58	36	0
Q'rindi	b	71	44	0
Singleton	b	63	51	0
Sydney ..	b	63	53	0
Taralga ..	f	65	38	0
Taree	b	73	51	0·01
T'nt'rfield	b	69	40	0
Wagga ..	b	64	36	0
Walcha ..	c	62	35	0
Walgett	b	70	49	0
Warrah ..	b	70	—	0
Warialda	b	75	40	0
W'ntw'rth	b	75	47	0
W'll'ng'ng	b	59	45	0
Young ..	b	75	34	0

SYDNEY OBSERVATORY.

Latitude 33° 51' 41" S. Longitude 10h. 4m. 50·81s E.
Magnetic Variation, 9° 35' 37" E.
Average Annual Rainfall for 28 years .... 40·489
Average for 29 years from Jan. 1 to JULY 31 1887 .. 35·222
Total Rainfall from Jan. 1, to Aug. 24 1887 .... 44·294
Barometers corrected to 32° Fah. and Mean Sea Level



Fine, wind N. Cloudy, wind E. T. storm, wind S. Rain, wind W. If it is calm, the symbol used without the arrow. Smooth sea. Heavy sea. Very heavy sea.

NOTES EXPLANATORY OF MAP.

In the list of stations the column headed W.T. gives the state of the weather at 9 a.m., b standing for blue sky; c, detached clouds; d, drizzling rain; f, fog; g, gloomy; h, hazy; m, misty; n, frosty; o, overcast; p, passing showers; r, rain; s, snow; t, thunder; u, threatening. The next column, Mx gives the maximum temperature for previous 24 hours. Mn the corresponding minimum temperature. Rn. the rain for the previous 24 hours. The symbols used in the map are explained on the margin. At each coast station the wind symbol is placed like a vane pointing to the direction from which the wind is coming. A clear circle with it means fine weather; a circle with bar, cloudy weather; and a black spot, raining. Next to this symbol are placed figures denoting the number of miles the wind is moving per hour; next, a symbol showing the state of the sea; and, lastly, figures denoting the shade temperature at 9 a.m. The barometer curve shows the state of barometers round the coast from Perth to Cooktown:—Pt, Perth; Ay, Albany; Ea, Eucla; CB, Cape Borda; A, Adelaide; Re, Robe; P, Portland; M, Melbourne; W P, Wilson's Promontory; Go, Gabo; E, Eden; Ma, Moruya; C G Jervis Bay; Wg, Wollongong; S, Sydney; N, Newcastle; PM, Port Macquarie; C, Clarence River; B, Brisbane; R, Rockhampton; Ct, Cooktown. Inland the state of barometer is given in figures at Albury, Deniliquin, Wentworth, Menindie, Bourke, and Alice Springs. The barometer curve enables one at a glance to trace the depressions, beginning with Western Australia, and passing along eastwards; northerly winds preceding them, and southerly following.

The rainfall on Sundays or holidays, when this map is not published, is in all cases included in the quantities shown by the next following map.

9 A.M. OBSERVATIONS.

Western Australia.—Cloudy and threatening in S.W. parts; fine in N.W. and S.E.; light N. to E. winds and calms; smooth sea. Extremes of barometers and temperature: 30·02 at Carnarvon, 29·96 at Perth, 75° at Cossack, and at Esperance Bay 46°.

South Australia.—Generally fine and warm, with scattered clouds throughout; fresh to strong N.E. to N. winds; smooth to moderate sea. Showery at Cape Borda and Cape Northumberland. Rainfall: 0·01 inch. Extremes of barometers and temperature: Farina, 30·33; Eucla, 30·02; Port Darwin, 78°; and Cape Northumberland, 54°.

Victoria.—Generally fine, but more or less cloudy; light variable winds and calms; smooth sea. Rainfall: at Ballarat, 0·01 inch. Extremes of barometers and temperature: Echuca, 30·51; Portland and Lakes Entrance, 30·39; Ballarat, 58°; and Omeo, 47°.

Tasmania.—Generally fine, with light variable winds and calms, and smooth sea. Rainfall: Circular Heads, 0·14 inch. Extremes of barometers and temperature: Circular Heads, 30·41 and 52°; Hobart, 30·37; and Falmouth, 42°.

New Zealand: Generally fine, with light N.W. to S.W. winds, but squally from S.E. in Cook Strait. Heavy showers and hailstorms on central parts during the night. Barometers: In north, 30·10; to southward, 30·30.

New South Wales.—Generally fine and calm; cloudy and foggy at scattered places; light variable winds in parts, sea generally smooth. Only two stations report rain during the last 24 hours. Extremes of barometers and temperature: Forbes, 30·49; Gabo, 30·32; Newcastle, 61°; and Cooma, 32°. (For further particulars see map.)

Queensland.—Generally fine and warm, but at places more or less cloudy, and light misty rain falling at Townsville; light to fresh N.E. to S.E. winds, smooth to moderate sea. Rainfall: Cooktown, 0·08 inch; Brisbane, 0·22 inch. Extremes of barometers and temperature: Brisbane, 30·43; Cooktown and Normanton, 30·17 and 75°; Roma, 62°.

3 P.M. OBSERVATIONS.

South Australia.—Adelaide, N.E., 16, cloudy, temperature 73°; Omeo, calm, cloudy, temperature 53°.

Victoria.—Portland, N., 16, fine, smooth sea, temperature 68°; Cape Otway, E., 8, fine, smooth sea, temperature 66°; Melbourne, N., 8, fine, but cloudy, temperature 67°; Cape Schanck, calm, fine, but cloudy, smooth sea, temperature 57°; Wilson's Promontory, N.E., 13, fine, smooth sea, temperature 56°; Lakes Entrance, E., 8, fine, temperature 60°.

New South Wales.—Menindie, calm, fine and warm, temperature 64°; Wentworth, N.W., 14, fine and warm, temperature 62°; Deniliquin, calm, fine and clear, temperature 66°; Eden, N.E., 14, fine, but cloudy, light E. sea, temperature 63°; Moruya, S.E., 28, cloudy and threatening, smooth sea, temperature 62°; Cape St. George, S., 28, fine, smooth sea, temperature 63°; Sydney, S.E., 9, fine but cloudy, smooth sea, temperature 62°; Newcastle, S., 14, raining, smooth sea, temperature 62°; Port Macquarie, N.E., 42, fine, smooth sea, temperature 69°; Clarence River, N.E., 14, fine, smooth sea, temperature 60°; Walgett, E., 14, cloudy, temperature 70°; Dubbo, S., 14, fine, temperature 65°; Goulburn, calm, fine.

Queensland.—Townsville, S.E., 34, fine, rather rough sea, temperature 72°; Rockhampton, E.N.E., 18, fine, but cloudy, temperature 70°; Roma, E., 8, fine, temperature 73°; Cape Moreton, E.S.E., 18, cloudy, temperature 66°.

HEIGHT OF RIVERS ABOVE SUMMER LEVEL.

Macintyre: At Mungindi (rising), 10ft. 6in. Barwon: At Mogil Mogil (falling), 16ft.; at Walgett (rising), 25ft. 6in. Namoi: At Walgett (rising), 18ft. Culgoa: At Goodooga (rising), 4ft. 6in. Darling: At Brewarrina (rising), 11ft.; at Bourke (rising), 16ft. 2in.; at Louth (falling), 19ft.; at Tilpa (falling), 24ft. 8in.; at Wilcannia (falling), 28ft. 10in.; at Menindie (rising), 22ft. 7in.; at Pooncarie, 22ft. 4 in.; at Wentworth, 18ft. 5in. Murrumbidgee: At Gundagai (falling), 8ft. 6in.; at Wagga, 10ft. 3in.; at Hay, 15ft. 8in.; at Balranald, 16ft. 4in. Murray: At Albury, 6ft. 9in.; at Euston, 20ft. 11in.

ASTRONOMICAL MEMORANDA FOR AUGUST 25.

Sun rises at 6.29, sets at 5.35; Moon, 10.44 a.m.; Mercury, 5.51 a.m., 4.23 p.m.; Venus, 7.41 a.m., 8.23 p.m.; Mars, 4.50 a.m., 2.51 p.m.; Jupiter, 9.18 a.m., 10.21 p.m.; Saturn, 4.52 a.m., 3.2 p.m. Full moon, August 4. New moon, August 19.

High water at Fort Denison: 12.6 a.m., 12.31 p.m.

H. A. LENEHAN,
Acting Government Astronomer.

METEOROLOGICAL REPORTS AND MAP FOR AUGUST 25, 1887.

Stations.	wt	Mx	m'n	Rn.
Albury ..	b	70	43	0
Armidale	b	60	40	0
Balranald	c	79	36	0
Bathurst	f	62	34	0
Bendem'r	b	62	38	0
Bodalla ..	b	64	40	0
Bourke ..	b	82	51	0
Bungarra	h	—	41	0
C'md'n H.	b	70	51	0
C. St. Geo.	b	64	50	0
Carcoar ..	b	52	37	0
Casino ..	b	76	47	0
Cassilis ..	o	61	44	0
Clarence .	b	73	54	0
C'nd'b'ln	h	71	48	0
Cooma ..	c	66	34	0
Coonab'n.	h	74	40	0
Cowra ..	h	70	44	0
Cudg'llieo	b	72	48	0
Deniliq'n.	b	79	36	0
Dubbo ..	b	75	39	0
Eden	h	63	46	0
Euston ..	g	80	49	0
Forbes ..	b	—	44	0
G'bo Isl'nd	b	69	50	0·02
Glen Inn's	b	65	43	0
23——63 EUCLA				
Goulburn	h	65	36	0
Grafton ..	h	70	49	0
Gulgong .	o	58	33	0
Gunned'h	b	71	52	0
Hay	b	76	51	0
Inverell ..	h	68	42	0·05
Kiandra ..	f	65	32	0
Lismore .	c	76	50	0
Maitland .	g	72	50	0·14
M'n'ng H.	b	67	49	0
Marsdens.	h	70	46	0
Menindie.	c	77	48	0
Molong ..	b	56	35	0
M'r'ng'r'll	b	64	43	0
Moree ..	h	83	49	0
Moruya ..	b	64	48	0
Moss Vale	b	59	47	0
Mt. Hope	b	80	52	0
M. Vict'ria	b	59	37	0
Mudgee ..	h	72	38	0·05
M'rr'mb'h	h	59	36	0
M'rr'r'ndi	b	59	43	0
Mus'lbr'k	g	66	45	0
Narrabri	b	75	45	0
Newcastle	f	66	49	0·03
Orange ..	b	57	35	0
Picton ..	f	66	42	0·03
P. M'q'rie	f	67	47	0
P. St'ph'n	f	63	43	0·08
Q'nbeyan	b	60	39	0
Quirindi	h	76	45	0
Singleton	b	63	53	0
SYDNEY ..	c	64	50	0
Taralga ..	u	73	40	0
Taree	f	72	52	0·05
T'nt'rfield	g	70	41	0
Wagga ..	g	69	35	0
Walcha ..	b	62	37	0
Walgett	b	72	49	0
Warrah ..	h	68	—	0
Warialda	b	79	44	0·01
Wntw'rth	c	84	54	0
W'll'ng'ng	b	68	47	0
Young ..	b	88	40	0

SYDNEY OBSERVATORY

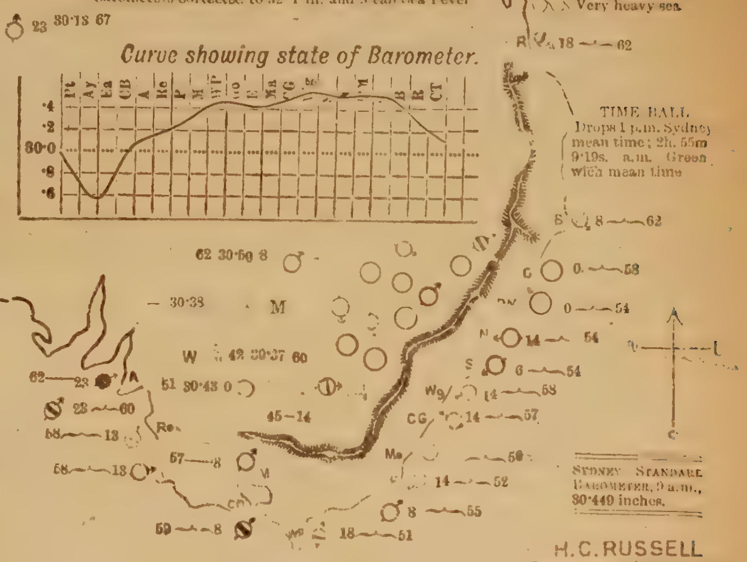
LATITUDE 33° 51' 41" S. LONGITUDE 10h. 4m. 50·31s. E.

MAGNETIC VARIATION, 9° 35' 37" E.

Average Annual Rainfall for 28 years .... 49·480
Average for 29 years from Jan. 1 to JULY 31 1887 .. 35·222
Total Rainfall from Jan. 1, to Aug. 25 1887 ...... 44·209

Barometers corrected to 32° Fah. and Mean Sea Level

Fine, wind N. Cloudy wind E. T. storm, wind S. Rain, wind W.
If it is CALM, the symbol used without the arrow.
Smooth sea.
Heavy sea.
Very heavy sea.



H. C. RUSSELL
GOVERNMENT ASTRONOMER

NOTES EXPLANATORY OF MAP.

In the list of stations the column headed W.T. gives the state of the weather at 9 a.m., b standing for blue sky; c, detached clouds; d, drizzling rain; f, fog; g, gloomy; h, hazy; m, misty; n, frosty; o, overcast; p, passing showers; r, rain; s, snow; t, thunder; u, threatening. The next column, M'x gives the maximum temperature for previous 24 hours. M'n the corresponding minimum temperature; R'n, the rain for the previous 24 hours. The symbols used in the map are explained on the margin. At each coast station the wind symbol is placed like a vane pointing to the direction from which the wind is coming. A clear circle with it means fine weather; a circle with bar, cloudy weather; and a black spot, raining. Next to this symbol are placed figures denoting the number of miles the wind is moving per hour; next, a symbol showing the state of the sea; and, lastly, figures denoting the shade temperature at 9 a.m. The barometer curve shows the state of barometers round the coast from Perth to Cooktown:—Pt, Perth; Ay, Albany; Ea, Eucla; CB, Cape Borda; A, Adelaide; Re, Robe; P, Portland; M, Melbourne; W P, Wilson's Promontory; Go, Gabo; E, Eden; Ma, Moruya; C G Jervis Bay; Wg, Wollongong; S, Sydney; N, Newcastle; PM, Port Macquarie; C, Clarence River; B, Brisbane; R, Rockhampton; Ct, Cooktown. Inland the state of barometer is given in figures at Albury, Deniliquin, Wentworth, Menindie, Bourke, and Alice Springs. The barometer curve enables one at a glance to trace the depressions, beginning with Western Australia, and passing along eastwards; northerly winds preceding them, and southerly following.

The rainfall on Sundays or holidays, when this map is not published, is in all cases included in the quantities shown by the next following map.

9 A.M. OBSERVATIONS.

Western Australia.—Except in extreme N.W. parts, it is generally stormy, showery, or threatening weather, with strong squally N.W. to S.W. winds and generally heavy sea. Rainfall: Perth, 1·51; Albany, 0·96; Esperance Bay, 0·28; Geraldton, 0·41; and Carnarvon, 0·02 inches. Extremes of barometers and temperature: Carnarvon, 30·12; Esperance Bay, 29·56; Cossack, 74°; and Perth, 45°.

South Australia.—Generally overcast, threatening, or raining south of Peake. Fresh to strong N. to N.E. winds, smooth to moderate sea. Rainfall: Generally over Yorke's Peninsula and Mount Lofty ranges, from 0·02 to 0·17 inch. Extremes of barometers and temperature: Farina, 30·20; Eucla, 29·64; Port Darwin, 78°; and Cape Northumberland, 58°.

Victoria.—Generally fine, but more or less cloudy, with light N. to E. winds and calms; smooth sea. Extremes of barometers and temperature: Echuca, 30·45; Horsham, 30·29 and 57°; Omeo, 41°.

Tasmania.—Generally fine, with clouds on the north coast; light to fresh N. to E. winds, and smooth to moderate sea. Extremes of barometers and temperature: Low Heads, 30·45 and 48°; Southport, 30·35 and 52°.

New Zealand.—Generally fine, with light S.E. to S.W. winds and calms. Barometers: Over the centre, 30·4; to north and south, 30·2.

New South Wales.—Generally fine and warm, with clouds and fog at scattered places; light variable, chiefly east winds and calms, smooth sea. During the previous 24 hours light rain fell at scattered places in the eastern division; heaviest, 0·80 inch at Camden. Extremes of barometers and temperature: Clarence, 30·51; Wentworth, 30·37; Bourke, 62°; and Kiandra, 37°. (For further particulars see map.)

Queensland.—Generally fine but unsettled, cloudy and threatening in S.E. parts, and drizzling at Mackay. Winds inland, fresh to strong N.E. to E., along the coast light to fresh S.E. to E. Sea smooth to moderate, but rather rough off Townsville. Rainfall: Mackay, 0·10; and Brisbane, 0·03 inch. Extremes of barometers and temperature: Brisbane, 30·45 and 62°; Cooktown, 30·16 and 75°.

3 P.M. OBSERVATIONS.

Victoria.—Portland, N.E., 13, fine, smooth sea, temperature 66°; Cape Otway, E.N.E., 8, fine, temperature 62°; Cape Schanck, N.N.E., 8, fine but cloudy, high sea, temperature 60°; Wilson's Promontory, N.E., 18, cloudy and misty, slight sea, temperature 50°; Lakes Entrance, E., 18, fine and clear, temperature 60°.

New South Wales.—Wentworth, N., 14, fine and warm, temperature 67°; Deniliquin, calm, fine, temperature 67°; Eden, N.E., 14, fine, light east sea, temperature 59°; Moruya, N.E., 28, cloudy, thunderstorm to west, smooth sea, temperature 62°; Cape St. George, N., 11, fine, smooth sea, temperature 64°; Sydney, E., 12, fine, scattered clouds, temperature 62°; Newcastle, E., 14, fine, smooth sea, temperature 61°; Port Macquarie, N.E., 28, fine, smooth sea, temperature 65°; Clarence River, E.N.E., 14, fine, smooth sea, temperature 69°; Walgett, E., 14, fine, temperature 70°; Dubbo, S., 14, fine, temperature 66°; Goulburn, N.E., 14, fine.

HEIGHT OF RIVERS ABOVE SUMMER LEVEL.

Macintyre: At Mungindi (rising), 10ft. 6in. Barwon: At Mogil Mogil (falling), 15ft.; at Walgett (rising), 27ft. 8in. Namoi: At Walgett (rising), 19ft. Culgoa: At Goodooga (rising), 5ft. Darling: At Brewarrina (rising), 10ft. 9in.; at Bourke (rising), 16ft. 6in.; at Louth (falling), 18ft.; at Tilpa (falling), 23ft. 6in.; at Wilcannia (falling), 28ft. 6in.; at Menindie (rising), 22ft.; at Pooncarie (rising), 20ft. 4in.; at Wentworth (rising), 18ft. 7in. Murrumbidgee: At Gundagai 8ft.; at Wagga, 9ft. 10in.; at Hay (falling), 15ft.; at Balranald, 16ft. 3in. Murray: At Albury, 6ft. 6in.; at Euston, 21ft. 1in.

ASTRONOMICAL MEMORANDA FOR AUGUST 26.

Sun rises at 6.28, sets at 5.36; Moon, 11.29 a.m., 12 a.m.; Mercury, 5.53 a.m., 4.27 p.m.; Venus, 7.37 a.m., 8.21 p.m.; Mars, 4.48 a.m., 2.50 p.m.; Jupiter, 9.14 a.m., 10.18 p.m.; Saturn, 4.49 a.m., 2.59 p.m. Full moon, August 4. New moon, August 19.

High water at Fort Denison, August 26: 12.55 a.m., 1.24 p.m.

H. A. LENEHAN,
Acting Government Astronomer.

METEOROLOGICAL REPORTS AND MAP FOR AUGUST 30, 1887.

Stations.	wt	Mx	mn	Rn
Albury ..	c	65	49	0
Armidale	c	62	50	0·16
Balranald	b	75	35	0
Bathurst	c	59	39	0·01
Bendem'r	g	56	49	0·32
Bodalla ..	–	—	—	–
Bourke ..	r	75	54	0·03
Bundarra	c	69	21	0
C'md'n H.	c	62	56	0·07
C. St. Geo.	c	61	50	0·11
Carcoar ..	c	57	38	0·40
Casino ..	g	78	49	0·46
Cassilis ..	o	61	52	0·02
Clarence .	c	75	56	0·32
C'nd'b'lin	c	75	45	0
Cooma ..	c	60	39	0·14
Coonab'n.	f	68	45	0·02
Cowra ..	b	68	42	0
Cudg'llico	o	72	43	0
Deniliq'n.	b	71	37	0
Dubbo ..	b	68	43	c
Eden	r	68	50	0·03
Euston ..	b	73	39	0
Forbes ..	b	—	45	0·04
G'ho Isl'nd	c	58	51	0·24
Glen Inn's	c	55	47	0·30

8——58 EUCLA

Stations.	wt	Mx	mn	Rn
Goulburn	u	56	43	0·13
Grafton ..	r	78	59	0·07
Gulgong .	u	60	42	0·35
Gunned'h	c	69	54	0·75
Hay	b	63	41	0
Inverell ..	c	65	51	0·36
Kiandra ..	r	44	31	0·26
Lismore .	c	80	56	1·33
Maitland .	u	61	51	0·23
M'n'ng H.	u	67	50	0·04
Marsdens.	b	67	49	0·07
Menindie.	g	65	48	0
Molong ..	o	51	36	0
M'r'ng'r'll	b	66	41	0
Moree ..	o	75	42	0·04
Moruya ..	g	62	50	0
Moss Vale	f	56	46	0·25
Mt. Hope	c	73	49	0
M. Vi t'ria	r	59	39	0·28
Mudgee ..	g	67	43	0·51
M'rr'mb'h	c	60	49	0·53
M'rr'r'ndi	f	62	54	0
Mus'lbr'k	r	69	51	0·06
Narrabri	g	75	57	0.07
Newcastle	r	67	55	0·12
Orange ..	h	56	42	0
Picton ..	u	63	47	0·58
P. M'q'rie	c	68	54	0·04
P. St'ph'n	g	63	51	0·05
Q'abeyan	r	57	38	0·86
Quirindi	o	66	53	0
Singleton	g	60	56	0·10
Sydney ..	g	61	54	0·61
Taralga ..	r	59	44	0
Taree	r	71	57	0·06
T'nt'rfield	c	68	45	0·20
Wagga ..	b	64	40	0
Walcha ..	r	59	43	0·73
Walgett	c	70	54	0
Warrah ..	o	67	50	0
Warialda	b	73	50	0·05
W'ntw'rth	h	63	43	0
W'll'ng'ng	u	66	44	0·15
Young ..	c	73	45	0

SYDNEY OBSERVATORY.

LATITUDE 33° 51' 41" S. LONGITUDE 10h. 4m. 50·81s. E.

MAGNETIC VARIATION, 9° 35' 37" E.

Average Annual Rainfall for 28 years.................49·489

Average for 29 years from Jan. 1 to JULY 31 1887 .. 30·222

Total Rainfall from Jan. 1, to Aug. 30 1887 ...... 45·389

Barometers corrected to 32° Fah. and Mean Sea Level

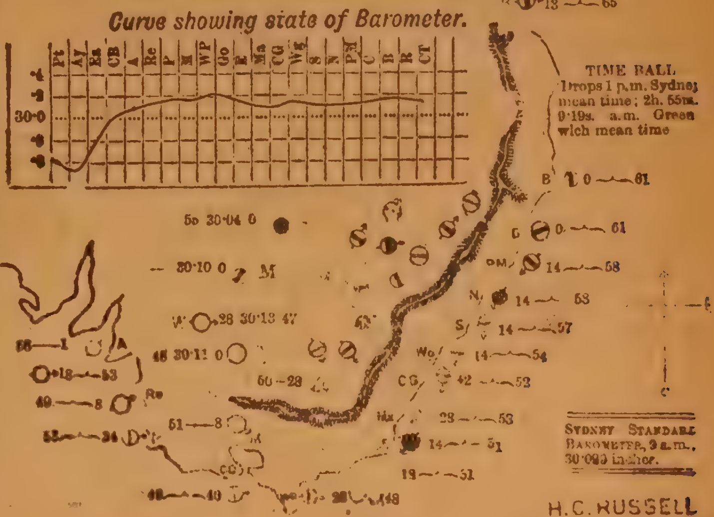
Fine, wind N. Cloudy wind E. T. storm, wind S. Rain, wind W.

If it is CALM, the symbol used without the arrow

Smooth sea.

Heavy sea.

Very heavy sea.



H. C. RUSSELL

GOVERNMENT ASTRONOMER.

NOTES EXPLANATORY OF MAP.

In the list of stations the column headed W.T. gives the state of the weather at 9 a.m., b standing for blue sky; c, detached clouds; d, drizzling rain; f, fog; g, gloomy; h, hazy; m, misty; n, frosty; o, overcast; p, passing showers; r, rain; s, snow; t, thunder; u, threatening. The next column, Mx gives the maximum temperature for previous 24 hours. Mn the corresponding minimum temperature; Rn, the rain for the previous 24 hours. The symbols used in the map are explained on the margin. At each coast station the wind symbol is placed like a vane pointing to the direction from which the wind is coming. A clear circle with it means fine weather; a circle with bar, cloudy weather; and a black spot, raining. Next to this symbol are placed figures denoting the number of miles the wind is moving per hour; next, a symbol showing the state of the sea; and, lastly, figures denoting the shade temperature at 9 a.m. The barometer curve shows the state of barometers round the coast from Perth to Cooktown:- Pt, Perth; Ay, Albany; Ea, Eucla; CB, Cape Borda; A, Adelaide; Re, Robe; P, Portland; M, Melbourne; W P, Wilson's Promontory; Go, Gabo; E, Eden; Mu, Moruya; C G Jervis Bay; Wg, Wollongong; S, Sydney; N, Newcastle; P M, Port Macquarie; C, Clarence River; B, Brisbane; R, Rockhampton; Ct, Cooktown. Inland the state of barometer is given in figures at Albury, Deniliquin, Wentworth, Menindie, Bourke, and Alice Springs. The barometer curve enables one at a glance to trace the depressions, beginning with Western Australia, and passing along eastwards; northerly winds preceding them, and southerly following.

The rainfall on Sundays or holidays, when this map is not published, is in all cases included in the quantities shown by the next following map.

9 A.M. OBSERVATIONS.

Western Australia.—Generally gloomy and threatening, with misty rain at Carnarvon; strong squally N. to W. winds; moderate to rough sea. Rainfall: Perth, 0·38 inch; and Albany, 0·02 inch. Extremes of barometers and temperature: Carnarvon, 29·92 and 68; Albany, 29·50 and 55.

South Australia.—Generally fine and pleasant on and near the coast, scattered clouds on Mount Lofty Ranges, cloudy between Beltana and Charlotte Waters; light to fresh N.E. to E. winds, with smooth sea. Rainfall: The Peake, 0·68 inch, and still raining; raining at Strangway Springs. No reports from Northern Territory. Extremes of barometers and temperature: Cape Northumberland, 30·08 and 49°; Eucla, 29·79 and 58°.

Victoria.—Generally more or less cloudy and unsettled, and in north parts gloomy and threatening; fresh to strong E. to S.E. winds; moderate to rough sea. Rainfall: Generally from 0·01in. to 0·38in. Extremes of barometers and temperature: Lakes Entrance, 30·23; Horsham, 30·03 and 56°; Ballarat, 44°.

Tasmania.—Generally unsettled, with showers on the east coast, fresh S. to S.E. winds, moderate sea. Rainfall: Generally from 0·01 to 0·15 in. Extremes of barometers and temperature: Southport, 30·31 and 47°; Falmouth, 30·19; and Hobart, 55°.

New Zealand.—Generally fine, with N.W. to S.W. and calms. Barometers: In north, 30·40; to southward, 30·30.

New South Wales.—Fine in the pastoral districts of the Darling and Murrumbidgee. Over the remainder of the colony overcast, gloomy, or threatening, with showers or light rain falling at places along the coast and ranges. During the night thunderstorms occurred on the northern border, with lightning along E. coast. Light rain fell generally over the eastern division, heaviest in N.E. parts. Winds are generally light or calm; N. to N.E. in north parts; easterly inland; S. and S.W. along the coast. Sea, smooth. Extra station, Brewarrina, 0·13 inch rain. Extremes of barometers and temperature: Gabo, 30·18; Walgett, 30·04; Lismore, 64°; and Kiandra, 34°. (For further particulars see map.)

Queensland.—Generally more or less cloudy and unsettled, with rain falling in S.W. parts; light to fresh N.E. to E. winds; smooth to moderate sea. Rainfall: Boulia, 1·09 inch; and Thargomindah, 0·55 inch. Thunderstorms occurred during the night in south and S.W. parts. Extremes of barometers and temperature: Brisbane, 30·13 and 61°; Normanton, 30·08 and 78°.

3 P.M. OBSERVATIONS.

53°; Cape Otway, E.S.E., 40, fine, but cloudy, moderate sea, temperature 54°; Melbourne, S.E., 13, fine, but cloudy, temperature 57°; Omeo, S., 18, overcast and gloomy, temperature 43°; Cape Schanck, E., 28, fine, but cloudy, smooth sea, temperature 57°; Wilson's Promontory, E.S.E., 23, fine but cloudy, smooth sea, temperature 50°; Lakes Entrance, E.S.E., 28, overcast and threatening, 56°.

New South Wales.—Menindie, calm, dull, temperature 59°; Wentworth, S., 14, fine, temperature 56°; Deniliquin, S.E., 14, overcast, temperature 64°; Eden, S.S.E., 14, cloudy, like rain, light E. sea, temperature 58°; Moruya, S., 28, misty, showery, moderate sea, temperature 55°; Cape St. George, S., 42, cloudy, smooth sea, temperature 58°; Sydney, S., 16, overcast and gloomy, moderate sea, temperature 57°; Newcastle, S., 14, dull, smooth sea, temperature 61°; Port Macquarie, N.E., 14, cloudy, smooth sea, temperature 68°; Clarence River, N.E., 14, cloudy, smooth sea, temperature 69°; Walgett, N.E., raining heavily, temperature 60°; Dubbo, E., 14, fine, but cloudy, temperature 61°; Goulburn, E.N.E, 14, dull; Wilcannia, variable, cloudy.

Queensland.—Thargomindah, N.E., raining steadily; Townsville, S.E., 8, fine, temperature 75°; Blackall, N., 12, raining steadily; Rockhampton, N.E., 18, cloudy, temperature 71°; Roma, N.N.E., 13, overcast, and gloomy, temperature 69°; Cape Moreton, N.E., 23, cloudy, 67°; Brisbane, N.E., 18, cloudy and threatening, temperature 68°.

HEIGHT OF RIVERS ABOVE SUMMER LEVEL.

Macintyre: At Mungindi (stationary), 15ft. Barwon: At Mogil Mogil, (rising), 17ft.; at Walgett (rising), 33ft. Namoi: At Walgett (rising), 25ft. 4in. Culgoa: At Goodooga (rising), 7ft. 6in. Darling: At Brewarrina (rising), 15ft.; at Bourke (rising), 20ft.; at Louth (rising), 16ft.; at Tilpa (stationary), 20ft. 10in.; at Wilcannia (falling), 25ft. 5in.; at Menindie (rising), 23ft. 6in.; at Wentworth, 19ft. 3in. Murrumbidgee: At Gundagai (rising), 7ft. 3in.; at Wagga; 9ft. 6in.; at Hay (rising), 15ft. 3in.; at Balranald, 16ft. 7in. Murray: At Albury, 8ft. 5in.; at Euston, 21ft. 11in.

ASTRONOMICAL MEMORANDA FOR AUGUST 31.

Sun rises at 6.21, sets at 5.40; Moon, 3.53 p.m., 4.36 a.m.; Mercury, 6.4 a.m., 4.50 p.m.; Venus, 7.16 a.m., 8.7 p.m.; Mars, 4.41 a.m., 2.46 p.m.; Jupiter, 8.57 a.m., 10.2 p.m.; Saturn, 4.32 a.m., 2.42 p.m. Full moon, August 4. New moon, August 19.

High water at Fort Denison: 6.41 a.m., 7.5 p.m.

H. A. LENEHAN,

Acting Government Astronomer.

METEOROLOGICAL REPORTS AND MAP FOR AUGUST 31, 1887.

Stations.	Wt	Mx	Mn	Rn
Albury ..	c	63	47	1·44
Armidale	g	65	53	0·04
Balranald	b	79	40	0
Bathurst	r	56	45	1·13
Bendem'r	–	–	–	–
Bodalla ..	r	64	44	0·46
Bourke ..	c	60	55	1·72
Buncarra	r	—	26	1·23
C'md'n H.	c	71	57	0·15
C. St. Geo.	r	57	53	1·18
Carcoar ..	r	53	36	0·75
Casino ..	u	77	58	0·01
Cassilis .	r	58	53	0·94
Clarence .	r	72	62	0·04
C'nd'b'lin	o	75	47	0·20
Cooma ..	c	52	40	0·12
Coonab'n.	r	65	54	1·56
Cowra ..	r	62	52	1·22
Cudg'llico	b	82	42	0
Deniliq'n.	b	53	39	0
Dubbo ..	u	62	52	1·18
Eden	r	60	50	0·08
Euston ..	b	75	30	0
Forbes ..	r	–	46	0·65
G'bo Isl'nd	r	60	50	0·05
Glen Inn's	r	56	49	0·63

18——58
EUCLA

Goulburn	r	55	44	0·96
Grafton ..	r	74	58	0·09
Gulgong .	u	52	42	2·44
Gunned'h	c	69	54	1·46
Hay ..	b	64	39	0
Inverell ..	r	63	54	0·61
Kiandra ..	r	44	35	0·09
Lismore .	r	76	60	0
Maitland .	u	64	53	0·74
M'n'ng H.	c	70	54	0·13
Marsdens.	c	62	51	0
Menindie.	b	56	49	0
Molong ..	r	54	36	1·58
M'r'ng'r'll	g	64	52	0·03
Moree ..	c	68	54	0·54
Moruya ..	r	58	46	0·37
Moss Vale	r	52	46	0·82

Mt. Hope	f	62	49	0
M. Vi t'ria	r	51	42	1·25
Mudgee ..	r	59	45	2·25
M'rr'mb'h	r	61	50	0·40
M'rr'r'ndi	u	59	54	1·55
Mus'lbr'k	c	63	50	1·09
Narrabri	r	70	56	0·69
Newcastle	g	68	55	0·39
Orange ..	r	54	46	1·70
Picton ..	r	59	51	0·65
P. M'q'rie	c	69	57	0·09
P. St'ph'n	r	60	56	0·43
Q'nbeyan	r	57	35	0·41
Quirindi	o	66	55	1·25
Singleton	c	60	59	1·05
SYDNEY ..	o	58	55	1·02
Taralga ..	r	59	43	1·75
Taree ...	g	68	56	0·32
T'nt'rfield	r	64	54	0·30

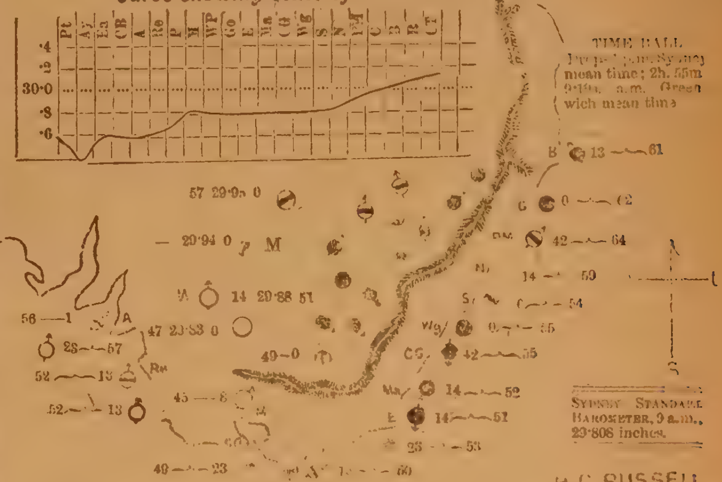
SYDNEY OBSERVATORY.

LATITUDE 33° 51' 41" S. LONGITUDE 10h. 4m. 50·81s. E.
MAGNETIC VARIATION, 9° 85' 37" E.

Average Annual Rainfall for 28 years..................49·489
Average for 29 years from Jan. 1 to JULY 31 1887 .. 35·299
Total Rainfall from Jan. 1, to Aug. 31 1887 ...... 46·408
Barometers corrected to 32° Fah. and Mean Sea Level

Fine, wind N. Clouds wind E.
T. storm, wind S. Rain, wind W.
If it is CALM, the symbol is used without the arrow.
Smooth sea.
Heavy sea.
Very heavy sea.

Curve showing state of Barometer.



TIME BALL.

Dropped at 1 p.m. Sydney mean time; 2h. 55m 9·19s. a.m. Greenwich mean time

SYDNEY STANDARD BAROMETER, 9 a.m., 29·808 inches.

H. C. RUSSELL,
GOVERNMENT ASTRONOMER.

NOTES EXPLANATORY OF MAP.

In the list of stations the column headed W.T. gives the state of the weather at 9 a.m., b standing for blue sky; c, detached clouds; d, drizzling rain; f, fog; g, gloomy; h, hazy, m, misty; n, frosty; o, overcast; p, passing showers; r, rain; s, snow; t, thunder; u, threatening. The next column, Mx, gives the maximum temperature for previous 24 hours. M'n the corresponding minimum temperature; R'n, the rain for the previous 24 hours. The symbols used in the map are explained on the margin. At each coast station the wind symbol is placed like a vane pointing to the direction from which the wind is coming. A clear circle with it means fine weather; a circle with bar, cloudy weather; and a black spot, raining. Next to this symbol are placed figures denoting the number of miles the wind is moving per hour; next, a symbol showing the state of the sea; and, lastly, figures denoting the shade temperature at 9 a.m. The barometer curve shows the state of barometers round the coast from Perth to Cooktown:—Pt, Perth; Ay, Albany; Ea, Eucla; CB, Cape Borda; A, Adelaide; Re, Robe; P, Portland; M, Melbourne; WP, Wilson's Promontory; Go, Gabo; E, Eden; Ma, Moruya; CG Jervis Bay; Wg, Wollongong; S, Sydney; N, Newcastle; PM, Port Macquarie; C, Clarence River; B, Brisbane; R, Rockhampton; Ct, Cooktown. Inland the state of barometer

METEOROLOGICAL REPORTS AND MAP FOR SEPTEMBER 1, 1887.

Stations	W.T.	Mx	Mn	Rn
Albury ..	r	65	40	0·07
Armidale	b	61	54	0·40
Balranald	u	79	38	0
Bathurst	o	58	47	0·03
Bendem'r	g	62	43	0·24
Bodalla ..	b	62	41	0
Bourke ..	g	70	58	0
Buncarra	b	—	—	1·38
C'md'n H.	b	73	62	0·10
C. St. Geo.	b	59	48	0·05
Carcoar ..	b	57	41	0·23
Casino ..	b	75	62	0
Cassilis ..	b	63	46	0·01
Clarence .	o	72	62	0·13
C'nd'b'lin	o	75	53	0
Cooma ..	g	66	35	0
Coonab'n.	f	67	44	0·01
Cowra ..	b	64	43	0·04
Cudg'llico	u	63	51	0
Deniliq'n.	c	70	47	0·11
Dubbo ..	b	65	41	0·07
Eden	b	60	47	0·07
Euston ..	g	81	40	0·26
Forbes ..	b	—	45	0
G'bo Isl'nd	c	60	49	0·11
Glen Inn's	c	62	56	1·02

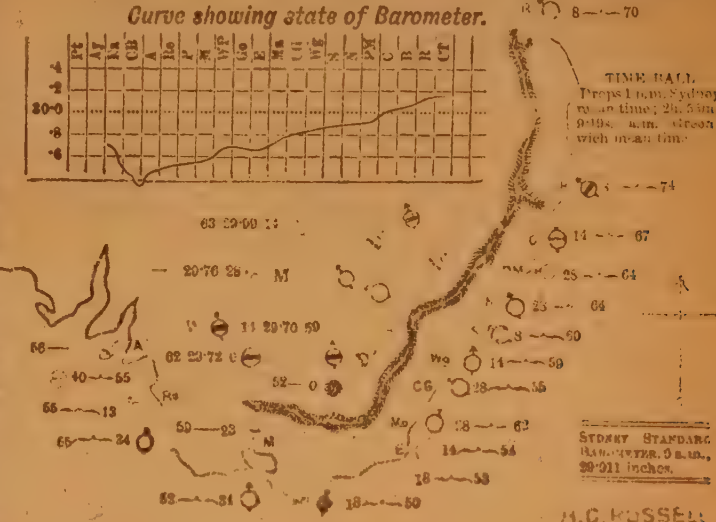
Goulburn	b	57	41	0·17
Grafton ..	b	76	60	0·04
Gulgong .	u	60	38	0
Gunned'h	o	70	54	0·24
Hay	r	71	51	0·18
Inverell ..	c	65	56	0·62
Kiandra ..	f	53	37	0·02
Lismore .	b	76	62	0·03
Maitland .	b	72	50	0
M'n'ng H.	b	72	53	0·05
Marsdens.	c	66	52	0
Menindie.	b	69	44	0
Molong ..	g	52	41	0
M'r'ng'r'll	c	66	50	0
Moree ..	g	67	56	0·99
Moruya ..	b	62	4?	0·04
Moss Vale	b	57	46	0·12

Mt. Hope	u	75	54	0
M. V. t'r.a	b	59	40	0·04
Mudgee ..	f	66	40	0·20
M'rr'mb'h	b	61	46	0·01
M'rr'r'ndi	u	62	56	0·20
Mus'lbr'k	b	70	49	0
Narrabri	u	71	58	0·88
Newcastle	b	73	54	0
Orange ..	g	57	48	0·41
Picton ..	f	61	46	0·21
P. M'q'rie	b	68	59	0·22
P. St'ph'n	b	71	51	0
Q'nbeyan	c	58	34	0·05
Quirindi	f	68	56	0·21
Singleton	c	68	58	1·02
SYDNEY ..	b	65	51	0·05
Taralga ..	b	58	40	0·40
Taree	b	74	64	0·04
T'nt'rfield	c	61	56	0·77
Wagga ..	r	70	40	0·10
Walcha ..	h	57	46	0·24
Walgett	h	69	56	0
Warialda	b	67	56	0·32
Warrah ..	u	67	55	0·17
W'ntw'rth	g	70	49	0·28
W'll'ng'ng	b	60	50	0·06
Young ..	g	66	41	0·01

SYDNEY OBSERVATORY.
Latitude 33° 51' 41" S. Longitude 10h. 4m. 50·8la. E.
Magnetic Variation, 9° 35' 27" E.
Average Annual Rainfall for 29 years .... 49·460
Average for 29 years from Jan. 1 to Aug. 31 1887 .. 38·105
Total Rainfall from Jan. 1, to Sth.. 1 1887 ...... 46·458
Barometers corrected to 32° Fah. and Mean Sea Level

Fine, wind N. Cloudy wind E.
T. storm, wind S. Rain, wind W.
If it is CALM, the symbol used without the arrow.
Smooth sea.
Heavy sea.
Very heavy sea.

Curve showing state of Barometer.



TIME BALL.
Drops 1 p.m. Sydney mean time; 2h. 5m. 9·19s. a.m. Greenwich mean time.

SYDNEY STANDARD BAROMETER, 9 a.m., 29·911 inches.

H. C. RUSSELL, GOVERNMENT ASTRONOMER.

NOTES EXPLANATORY OF MAP.

In the list of stations the column headed W.T. gives the state of the weather at 9 a.m., b standing for blue sky; c, detached clouds; d, drizzling rain; f, fog; g, gloomy; h, hazy, m, misty; n, frosty; o, overcast; p, passing showers; r, rain; s, snow; t, thunder; u, threatening. The next column, Mx gives the maximum temperature for previous 24 hours. Mn the corresponding minimum temperature; Rn, the rain of the previous 24 hours. The symbols used in the map are explained on the margin. At each contributing station the wind symbol is placed like a vane pointing to the direction from which the wind is coming. A clear circle with it means fine weather; a circle with bar, cloudy weather; and a black spot, raining. Next to this symbol are placed figures denoting the number of miles the wind is moving per hour; next, a symbol showing the state of the sea; and, lastly, figures denoting the shade temperature at 9 a.m. The barometer curve shows the state of barometers round the coast from Perth to Cooktown: P, Perth; Ay, Albany; Ea, Eucla; CB, Cape Borda; A, Adelaide; Ro, Robe; P, Portland; M, Melbourne; W P, Wilson's Promontory; Go, Gabo; E, Eden; Ma, Moruya; C J, Cape Jervis Bay; Wg, Wollongong; S, Sydney; N, Newcastle; P M, Port Macquarie; C, Clarence River; B, Brisbane; R, Rockhampton; Ct, Cooktown. Inland the state of barometer is given in figures at Albury, Deniliquin, Wentworth, Bourke, and Alice Springs. The barometer curve enables one at a glance to trace the depressions, beginning with Western Australia, and passing along eastwards; northerly winds preceding them, and southerly following.

The rainfall on Sundays or holidays, when this map is not published, is in all cases included in the quantities shown by the next following map.

9 A.M. OBSERVATIONS.

Western Australia.—Esperance Bay, fine clear sky, fierce squalls from west, and high sea. Barometer, 29·75; temperature, 40°; rainfall, 0·65. No reports from other parts.

South Australia.—Generally fine, with clouds and light rain at scattered places: strong squally westerly winds at the head of the Australian Bight; rough sea. Winds inland are from N.E. to N.W. Rainfall: South of Blinman, generally from 0·10in. to 0·75in.; Halmdorf, 1·01in.: Burra, 0·81in. Extremes of barometers and temperature: Eucla, 29·75; Cape Borda, 29·40 and 55°; Port Augusta, 66°. No reports from the Northern Territory.

Victoria.—Generally cloudy and gloomy, with rain falling in east parts; fresh to strong northerly winds, slight sea. Rainfall generally from 0·02 to 0·36 inch. Extremes of barometers and temperature: Lakes Entrance, 29·66°; Portland, 29·48; Horsham, 59°; and Omeo, 51°.

Tasmania.—Generally cloudy and gloomy, with rain falling in N.E. parts; light to fresh N. to W. winds moderate to rather rough sea. Rainfall: Generally from 0·02 to 0·27 inch. Extremes of barometers and temperature: Low Heads, 29·46; Southport, 92·31° and 47°; Circular Heads, 55°.

New Zealand.—Gloomy at Wellington, with fresh N.W. winds; fine elsewhere, with easterly winds. Barometers: In north, 30·50; over centre, 30·30; in south, 29·90.

New South Wales.—Fine along the coast, more or less cloudy and unsettled west of the dividing ranges; light rain falling in the Murrumbidgee pastoral district; light to fresh, and, at places in north strong, N.E. to N.W. winds, chiefly the latter; moderate sea. During the previous 24 hours light rain fell generally over the colony, except in the districts between the Lower Darling, the Bogan, and the Lachlan Rivers. The heaviest fall occurred in the New England districts. Extra station: Camden, 0·10 inch rain. Extremes of barometers and temperature: Clarence, 30·05; Eden, 29·68; Lismore, 70°; and Kiandra, 42°. (For further particulars see map.)

Queensland.—Fine in north, more or less cloudy and unsettled in south parts, with showers in S.E.; light to fresh N.E. to N.W. winds; smooth to moderate sea. Rainfall: In south parts from 0·02 to 0·07 inch. Extremes of barometers and temperature: Normanton, 30·16 and 76°; Roma, 30·05 and 64°.

3 P.M. OBSERVATIONS.

Victoria.—Portland, N., 34, fine smooth sea, temperature 62°; Cape Otway, N.N.E., 18, cloudy and gloomy, smooth sea, temperature 63°; Melbourne, N., 13, cloudy and threatening, temperature 63°; Omeo, W., 6, light rain, temperature 54°. Cape Schanck, N.N.W., 8, threatening, smooth sea, temperature 59°. Wilson's Promontory, W., 13, fine but cloudy, smooth sea, temperature 61°; Lakes Entrance, W., 6, heavy rain, temperature 64°.

New South Wales.—Wentworth, thunderstorm threatening. Eden, N.E., 28, fine, light E. sea, temperature 66°. Moruya, N.W., 42, squally, smooth sea, temperature 72°; Cape St. George, N. 42, fine, smooth sea, temperature 53°; Sydney, N.N.W., 18, fine, clear, and pleasant, moderate sea, temperature 73°; Newcastle, W., 28, fine, smooth sea, temperature 75°; Port Macquarie, N., 14, fine, moderate sea, temperature 75°; Clarence River, N.W., 11, fine, but dull, smooth sea, temperature 75°; Dubbo, N.W., 14, fine, river over banks, temperature 68°; Goulburn, N.W., 14, fine.

Queensland.—Blackall, S.E., 8, fine, temperature 74°; Hughenden, N.E., 13, dull and close, like rain; Thargomindah, N.W., 23, fine; Mackay, E., 14, fine; Rockhampton, N.W., 18, fine, temperature 81°; Bonlea, N.E., 23, fine and warm; in shade, N.W., 13, fine but cloudy, temperature 75°.

HEIGHT OF RIVERS ABOVE SUMMER LEVEL.

Macintyre: At Mungindi (falling), 12ft. 9in. Barwon. At Mogil Mogil, (stationary), 18ft.; at Walgett (rising), 34ft. 6in. Namoi: At Walgett (rising), 28ft. Culgoa: At Goodooga (rising), 8ft. Darling: At Brewarrina (rising), 17ft.; at Bourke (rising), 22ft. 6in.; at Louth (rising), 16ft. 11in.; at Tilpa (rising), 21ft. 4in.; at Wilcannia (falling), 21ft.; at Menindie (rising), 23ft. 7in.; at Pooncarie (rising), 21ft. 3in.; at Wentworth, 19ft. 6in. Murrumbidgee: At Gundagai (stationary), 8ft. 6in.; at Wagga, 10ft.; at Hay (rising), 16ft. 1in.; at Balranald, 16ft. 7in. Murray: At Albury, 9ft. 6in.; at Euston, 22ft. 3in.

ASTRONOMICAL MEMORANDA FOR SEPTEMBER 2.

Sun rises at 6.10, sets at 5.41; Moon, 5.43 p.m., 5.56 a.m.; Mercury, 6.6 a.m., 5.0 p.m.; Venus, 7.6 a.m., 7.59 p.m.; Mars, 4.37 a.m., 2.44 p.m.; Jupiter, 8.50a.m., 9.56 p.m.; Saturn, 4.25 a.m., 2.35 p.m. Full moon, September 2; new moon, September 19.

High water at Fort Denison September 2: 8.3 a.m., 8.20 p.m.

H. A. LENEHAN,
Acting Government Astronomer.

METEOROLOGICAL REPORTS AND MAP FOR SEPTEMBER 6, 1887.

Stations.	wt	Mx	m	Rn.
Albury	c	67	45	0·16
Armidale	n	70	38	0
Balranald	b	76	37	0
Bathurst	r	55	30	0·06
Bendem'r	n	65	32	0
Bodalla	–	–	–	–
Bourke	b	70	43	0
Bungarra	b	—	48	0
C'md'n H	b	73	45	0
C. St. Geo.	–	–	–	–
Carcoar	b	55	31	0
Casino	b	78	41	0
Cassilis	n	57	37	0
Clarence	b	79	51	0
C'nd'b'lin	b	77	41	0
Cooma	n	60	25	0·10
Coonab'n	n	66	23	0
Cowra	b	59	38	0
Gudg'llico	b	72	31	0
Deniliq'n	b	65	34	0
Dubbo	b	62	30	0
Eden	–	–	–	–
Euston	c	76	41	0
Forbes	b	—	46	0
G'bo Isl'nd	–	–	–	–
Glen Inn's	b	63	31	0
Goulburn	b	53	30	0·09
Grafton	b	76	46	0
Gulgong	b	55	33	0
Gunned'h	b	69	39	0
Hay	b	65	40	0
Inverell	b	61	33	0
Kiandra	g	49	27	0
Lismore	b	86	48	0
Maitland	b	62	38	0
M'n'ng H.	–	–	–	–
Marsdens	b	63	41	0
Menindie	g	65	42	0
Molong	b	52	29	0
M'r'ng'r'll	b	62	32	0·13
Moree	b	74	45	0
Moruya	–	–	–	–
Moss Vale	b	52	38	0
Mt. Hope	b	67	46	0
M. V't'ria	b	49	32	0
Mudgee	b	72	28	0
M'rr'mb'i	b	54	34	0·08
M'rr'r'nd'	b	62	38	0
Mus'lb'k	b	62	31	0
Narrabri	b	69	38	0
Newcastle	b	67	44	0
Orange	c	69	33	0
Picton	–	–	–	–
P. M'q'rie	b	65	42	0
P. St'ph'n	b	62	4[illegible]	0
Q'nbeyan	f	56	[illegible]	0·09
Quirindi	n	71	40	0
Singleton	n	63	44	0
Sydney	b	62	44	0
Taralga	b	60	41	0
Taree	b	70	46	0
T'nt'rfield	c	62	34	0
Wagga	b	69	32	0·10
Walcha	n	57	23	0
Walgett	b	63	42	0
Warialda	b	70	34	0
Warrah	b	6[illegible]	36	0
W'ntw'rth	b	67	43	0
W'll'ng'ng	b	68	45	0
Young	b	63	32	0·04

SYDNEY OBSERVATORY.

LATITUDE 33° 51' 41" S. LONGITUDE 10h. 4m. 50·81s. E.

MAGNETIC VARIATION, 9° 35' 37" E

Average Annual Rainfall for 28 years .... 49·489

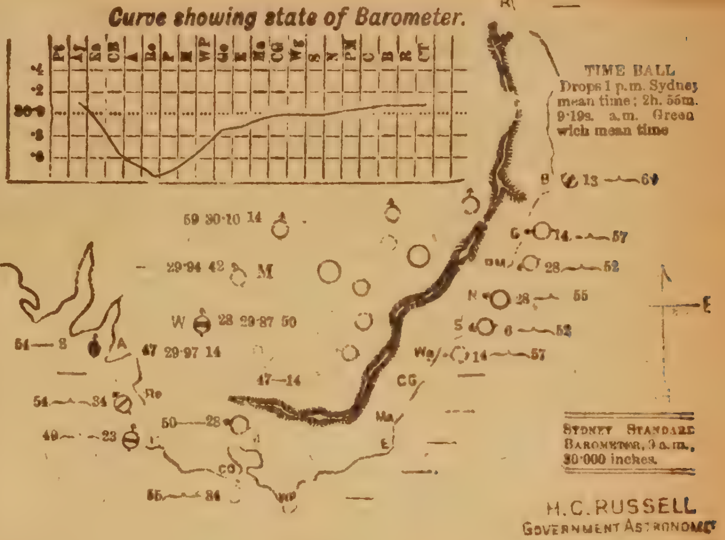
Average for 29 years from Jan. 1 to Aug. 31 1887 .. 38·195

Total Rainfall from Jan. 1, to Sth 6 1887 . . 46·465

Barometers corrected to 32° Fah. and Mean Sea Level

Fine, wind N. Cloudy wind E. T. storm, wind S. Rain, wind W.
If it is CALM, the symbol used without the arrow
Smooth sea.
Heavy sea.
Very heavy sea.

Curve showing state of Barometer.



NOTES EXPLANATORY OF MAP.

In the list of stations the column headed W.T. gives the state of the weather at 9 a.m., b standing for blue sky; c, detached clouds; d, drizzling rain; f, fog; g, gloomy; h, hazy; m, misty; o, overcast; p, passing showers; r, rain; s, snow; t, thunder; u, threatening. The next column, M'x gives the maximum temperature for previous 24 hours. M'n the corresponding minimum temperature; r'n, the rain for the previous 24 hours. The symbols used in the map are explained on the margin. At each coast station the wind symbol is placed like a vane pointing to the direction from which the wind is coming. A clear circle with it means fine weather; a circle with bar, cloudy weather; and a black spot, raining. Next to this symbol are placed figures denoting the number of miles the wind is moving per hour; next, a symbol showing the state of the sea; and, lastly, figures denoting the shade temperature at 9 a.m. The barometer curve shows the state of barometers round the coast from Perth to Cooktown: Pt, Perth; Ay, Albany; Eu, Eucla; CB, Cape Borda; A, Adelaide; Re, Robe; P, Portland; M, Melbourne; W P, Wilson's Promontory; Go, Gabo; E, Eden; Ma, Moruya; C J, Jervis Bay; Wg, Wollongong; S, Sydney; N, Newcastle; P M, Port Macquarie; C, Clarence River; B, Brisbane; R, Rockhampton; Ct, Cooktown. Inland the state of barometer is given in figures at Albury, Deniliquin, Wentworth, Menindie, Bourke, and Alice Springs. The barometer curve enables one at a glance to trace the depressions, beginning with Western Australia, and passing along eastwards; northerly winds preceding them, and southerly following.

The rainfall on Sundays or holidays, when this map is not published, is in all cases included in the quantities shown by the next following map.

9 A.M. OBSERVATIONS.

The reports from all the colonies are more or less incomplete, owing to telegraphic interruptions.

Western Australia.—Esperance Bay, showery, with fierce squalls from S.W., and rough sea. Barometer, 30·12, and temperature 50°.

South Australia.—Generally overcast, gloomy, and raining, or threatening rain south of Quorn. Fresh to strong N.E. to N.W. winds; squally from the west, with rough sea along the head of the Australian Bight. Rainfall: South of Peake, generally from 0·05 to 0·15 inch. Clare, 0·25 inch; Millicent, 0·22, and Farrell's Flat, 0·17 inch. Extremes of barometers and temperature: Eucla, 29·99 and 49°; Robe, 29·46, and 54°.

Victoria.—Generally fine, but unsettled, with fresh to strong northerly winds, and smooth to moderate sea. Rainfall: Portland, 0·17 inch; Ballarat, 0·12 inch. Extremes of barometers and temperature: Echuca, 29·92; Portland, 29·56; Horsham, 59°; and Omeo, 46°.

Tasmania.—More or less cloudy and gloomy, with fresh N. to W. winds, moderate sea. Rainfall: On the north coast, from 0·08 to 0·09in. Extremes of barometers and temperature: Low Heads, 29·73; Southport, 29·65; Hobart, 46°; and Circular Heads, 54°.

New Zealand.—Generally fine, with fresh to strong S.E. to S.W. winds. Thunderstorms last night and yesterday generally. Barometers: In north, 29·30; over centre, 29·10; in south, 29·20.

New South Wales.—Generally fine and calm, but cloudy, with fresh to strong N. winds on the Lower Darling; light westerly winds on the coast, and stormy at Men'ndie; smooth to moderate sea. During the 48 hours ended 9 a.m. to-day light rains fell in the eastern halves of the Murrumbidgee and Lachlan pastoral districts. The telegraph lines are interrupted on the south coast. Extremes of barometers and temperature: Walgett and Dubbo, 30·10; Wentworth and Albury, 29·87; Bourke, 59°; and Cooma, 27°. For further particulars see map.

Queensland.—Generally fine but unsettled; light variable winds and calms, smooth sea. Rainfall: Brisbane, 0·01 inch. Reports are very incomplete. Extremes of barometers and temperature: Townsville, 30·09 and 77°; Brisbane, 30·07 and 62°.

3 P.M. OBSERVATIONS.

Victoria.—Portland, N., 40, showery, smooth sea, temperature 52°; Cape Otway, N., 40, cloudy and squally, slight sea, temperature 62°; Melbourne, N.N.E., 18, cloudy and gloomy, temperature 60°; Cape Schanck, N.N.W., 28, cloudy and misty, slight sea, temperature 55°; Omeo, N., 18, cloudy and gloomy, temperature 51°.

New South Wales.—Menindie, N.W., 28, overcast and raining, temperature 57°; Wentworth, N., 14, raining, temperature 48°; Deniliquin, N., 28, overcast and dull, temperature 60°; Cape St. George, N., 42, fine, temperature 60°; Sydney, N.E., 17, fine and cool, moderate sea, temperature 59°. Newcastle, N.W., 14, fine, moderate sea, temperature 65°; Port Macquarie, N.E., 28, fine, smooth sea, temperature 67°; Clarence River, N.E., 42, fine, smooth sea, temperature 65°; Walgett, N.E., 14, dull, like rain, temperature 67°; Dubbo, N.N.W., 14, fine, but cloudy, temperature 59°; Goulburn, calm, fine.

Queensland.—Burketown, S.E., strong, fine; Townsville, S.E., 18, fine, temperature 75°; Rockhampton, E.N.E., 18, fine, temperature 76°; Roma, N., 8, fine, temperature 80°; Cape Moreton, N.E., 18, fine, temperature 70°; Brisbane, N.E., 18, fine, temperature 70°.

HEIGHT OF RIVERS ABOVE SUMMER LEVEL.

Macintyre: At Mungindi, falling, 8ft. 6in. Barwon: At Mogil Mogil, falling, 14ft.; at Walgett, falling, 33ft. Namoi: At Walgett, falling, 26ft. 0in. Culgoa: At Goodooga, falling, 7ft. 10in. Darling: At Brewarrina, rising, 20ft. 6in.; at Bourke, rising, 25ft. 10in.; at Louth, rising, 19ft.; at Tilpa, rising, 24ft.; at Wilcannia, falling, 23ft. 10in.; at Menindie, rising, 23ft. 11in.; at Pooncarie, rising, 21ft. 7in.; at Wentworth, 20ft. Murrumbidgee: At Gundagai, falling, 18ft.; at Wagga, 17ft. 9in.; at Hay, falling, 15ft. 9in.; at Balranald, 16ft. 8in. Murray: At Albury, 13ft. 1in.; at Euston, 23ft. 4in.

ASTRONOMICAL MEMORANDA FOR SEPTEMBER 6.

Sun rises at 6.13, sets at 5.44; Moon, 9.17 p.m., 8.6 a.m.; Mercury, 6.12 a.m., 5.22 p.m.; Venus, 6.46 a.m., 7.59 p.m.; Mars, 4.29 a.m., 2.41 p.m.; Jupiter, 8.36 a.m.; 9.44 p.m.; Saturn, 4.11 a.m., 2.21 p.m. Full moon, September 2; new moon, September 18.

High water at Fort Denison September 6: 10.22 a.m., 10.38 p.m.

H. A. LENEHAN,
Acting Government Astronomer.

METEOROLOGICAL REPORTS AND MAP FOR SEPTEMBER 6, 1[illegible]

Stations.	W.T.	Mx	M'n	R'n.
Albury ..	c	61	45	0·45
Armidale	g	60	40	0·01
Balranald	b	70	33	0·39
Bathurst	u	65	38	0·60
Bendem'r	r	62	47	0·07
Bodalla ..	–	–	–	–
Bourke ..	b	64	50	0·11
Buncarra	g	–	49	0
C'md'n H.	c	66	51	0
C. St. Geo.	b	66	52	0
Carcoar ..	r	55	31	1·03
Casino ..	c	77	60	0
Cassilis .	r	59	42	0·31
Clarence .	c	79	52	0
C'nd'b'lin	u	77	47	0·44
Cooma ..	r	64	40	0·12
Coonab'n.	r	65	33	0·42
Cowra ..	g	61	41	0·71
Cudg'llico	u	67	41	0·34
Deniliq'n.	b	64	30	0·46
Dubbo ..	c	61	46	0.55
Eden	r	60	45	0·04
Euston ..	b	76	37	0·46
Forbes ..	c	—	47	0·55
G'ho Isl'nd	r	60	47	0·03
Glen Inn's	u	71	36	0
Goulburn	r	52	37	0·65
Grafton ..	b	76	53	0
Gulgong .	g	60	33	0·45
Gunned'h	c	64	47	0·05
Hay	b	66	41	0·14
Inverell ..	c	63	43	0
Kiandra ..	s	55	31	0
Lismore .	b	80	52	0
Maitland .	g	66	48	0·06
M'n'ng H.	–	—	—	–
Marsdens.	o	62	46	0·33
Menindie.	b	60	44	0·32
Molong ..	g	46	39	0·67
M'r'ng'r'll	r	63	40	0·47
Moree ..	g	74	40	0
Moruya ..	u	64	51	0
Moss Vale	–	—	—	–
Mt. Hope	c	62	49	0·59
M. Vi t'ria	g	58	38	0·54
Mudgee ..	r	69	35	0·77
M'rr'mb'h	c	59	43	0·30
M'rr'r'ndi	c	57	46	0·21
Mus'lbr'k	c	67	45	0·11
Narrabri	r	69	46	0·07
Newcastle	c	66	52	0·05
Orange ..	r	54	40	1·53
Picton ..	h	62	31	0·08
P. M'q'rie	c	65	50	0
P. St'ph'n	g	64	50	0
Q'nbeyan	h	51	30	0·19
Quirindi	g	65	46	0·21
Singleton	b	61	53	0·16
SYDNEY .	c	63	52	0·05
Taralga ..	r	60	38	1·01
Taree	c	70	49	0·01
T'nt'rfield	r	69	44	0
Wagga ..	r	67	40	0·24
Walcha ..	g	60	24	0·10
Walgett	g	68	52	0·06
Warialda	g	73	40	0
Warrah ..	u	62	50	0·25
W'ntw'rth	b	61	41	0·23
W'll'ng'ng	b	70	53	0·02
Young ..	r	75	42	0·77

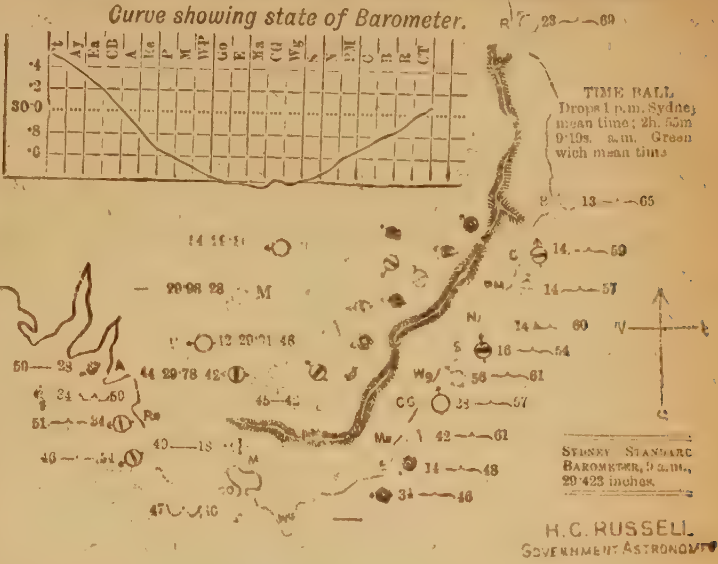
SYDNEY OBSERVATORY.

LATITUDE 33° 51' 41" S. LONGITUDE 10h. 4m. 50·81s. E.
MAGNETIC VARIATION, 9° 35' 37" E.

Average Annual Rainfall for 28 years .... 49·459
Average for 29 years from Jan. 1 to Aug. 31 1887 .. 38·195
Total Rainfall from Jan. 1, to Sth. 6 1887 ..... 46·515
Barometers corrected to 32° Fah. and Mean Sea Level

Fine, wind N. Cloudy, wind E. T. storm, wind S. Rain, wind W.
If it is CALM, the symbol used without the arrow.
Smooth sea. Heavy sea. Very heavy sea.

Curve showing state of Barometer.



NOTES EXPLANATORY OF MAP.

In the list of stations the column headed W.T. gives the state of the weather at 9 a.m., b standing for blue sky; c, detached clouds; d, drizzling rain; f, fog; g, gloomy; h, hazy; m, misty; n, frosty; o, overcast; p, passing showers; r, rain; s, snow; t, thunder; u, threatening. The next column, M'x gives the maximum temperature for previous 24 hours. M'n the corresponding minimum temperature; r'n, the rain for the previous 24 hours. The symbols used in the map are explained on the margin. At each coast station the wind symbol is placed like a vane pointing to the direction from which the wind is coming. A clear circle with it means fine weather; a circle with bar, cloudy weather; and a black spot, raining. Next to this symbol are placed figures denoting the number of miles the wind is moving per hour; next, a symbol showing the state of the sea; and, lastly, figures denoting the shade temperature at 9 a.m. The barometer curve shows the state of barometers round the coast from Perth to Cooktown. Pt, Perth; Ay, Albany; Ea, Eucla; Cb, Cape Borda; A, Adelaide; Re, Robe; P, Portland; M, Melbourne; W P, Wilson's Promontory; Go, Gabo; E, Eden; Ma, Moruya; J B, Jervis Bay; Wg, Wollongong; S, Sydney; N, Newcastle; P M, Port Macquarie; C, Clarence River; B, Brisbane; R, Rockhampton; Ct, Cooktown. Inland the state of barometer is given in figures at Albury, Deniliquin, Wentworth, Menindie, Bourke, and Alice Springs. The barometer curve enables one at a glance to trace the depressions, beginning with Western Australia, and passing along eastwards; northerly winds preceding them, and southerly following.

The rainfall on Sundays or holidays, when this map is not published, is in all cases included in the quantities shown by the next following map.

9 A.M. OBSERVATIONS.

Western Australia.—Strong winds in squalls from east, and rough sea along the West Coast; light westerly winds and smooth sea in south; weather generally fine. Rainfall: From 0·05 to 0·30in. on the South Coast. Extremes of barometer and temperature: Perth, 30·48 and 46·; Cossack, 30·16 and 71·.

South Australia.—Showery or threatening rain south of Port Augusta; fresh to strong N.W. to S.W. winds; squally at places; moderate to rough sea. Rainfall: Generally south of Port Augusta from 0·25 to about 1·00in. Extremes of barometers and temperature: Alice Springs, 30·35; Cape Northumberland, 29·59 and 47·; Port Darwin, 83·.

Victoria.—More or less cloudy and unsettled, with showers along the coast; strong winds in squalls from west; moderate to rough sea. Rainfall: Generally from 0·15in. to 0·62in. Extremes of barometers and temperature: Echuca, 29·76; Cape Schanck, 29·53 and 52·; Hamilton, 36·.

Tasmania.—More or less cloudy and gloomy; fresh to strong westerly winds, smooth to moderate sea. Rainfall: Generally from 0·01 to 0·20in. Extremes of barometers and temperature: Low Heads, 29·66 and 45·; Southport, 29·15; Hobart, 48·.

New Zealand.—Fine weather, light variable winds. On the N.W. coast, fresh to strong S.W. winds and rough sea. Barometers: In north, 29·70; over centre, 29·50; in south, 29·50.

New South Wales.—Fine in the districts on the Lower Darling and Murray; over the remainder of the colony cloudy and gloomy, with showers along the western slopes of the ranges. Stormy in N.E. parts, except at places on the coast, strong, squally westerly—i.e., N.W. to S.W.—winds are blowing all over the colony. The sea is smooth. During the 24 hours ended 9 a.m. to-day light rain fell generally over the colony, except on the northern border. Extremes of barometers and temperature: Menindie, 29·98; Moruya, 29·35; Wollongong, 61·; and Kiandra, 35·. For further particulars see map.

Queensland.—Generally dull weather, with strong N.W. winds in S.W. parts; fine, but more or less cloudy in the tropics, with light variable winds. The sea is smooth. Extremes of barometers and temperature: Townsville, 30·09 and 79·; Roma, 29·78 and 59·.

3 P.M. OBSERVATIONS.

South Australia.—Adelaide, W., 23, fine, partially cloudy, temperature 44·.

Victoria.—Portland, S.W., 34, passing showers, slight sea, temperature 53·; Cape Otway, W., 34, squally and showery, rough sea, temperature 51·; Melbourne, W., 23, squally and cloudy, temperature 52·; Omeo, N.W., 18, fine, but cloudy, temperature 47·; Cape Schanck, S.S.W., 23, squally and showery moderate sea, temperature 53·; Wilson's Promontory, W., 48, cloudy and squally, temperature 55·; Lakes Entrance, W., 40, squally and cloudy, temperature 55·.

New South Wales.—Wentworth, S.W., 28, cloudy, temperature 48·; Deniliquin, W., 28, overcast, stormy, and like rain, temperature 59·; Eden, S.W., 42, fine, but cloudy, smooth sea, temperature 54·; Moruya, S.W., 28, fine and squally, smooth sea, temperature 60·; Cape St. George, S., 42, fine, but cloudy, smooth sea, temperature 66·; Sydney, W.S.W., 52, stormy and cold, temperature 56·; Newcastle, W., 56, fine, smooth sea, temperature 65·; Port Macquarie, W.N.W., 56, fine, smooth sea, temperature 69·; Clarence River, N.W., 42, dull, smooth sea, temperature 66·; Walgett, N., 56, cloudy, temperature 61·; Dubbo, S.W., 28, cloudy and threatening, temperature 57·; Euston, N.W., 56, cloudy and like rain; Balranald, W., 14, cloudy and cold; Goulburn, N.W., showery.

Queensland.—Cooktown, S.E., 8, fine, smooth sea, temperature 81·; Townsville, S.E., 13, fine, temperature 79·; Rockhampton, N.W., 28, cloudy, temperature 82·; Roma, S.W., 8, cloudy, temperature 58·; Cape Moreton, N.W., 28, cloudy, temperature 75·; Brisbane, W.N.W., 13, cloudy and gloomy, temperature 74·.

HEIGHT OF RIVERS ABOVE SUMMER LEVEL.

Macintyre: At Mungindi, falling, 8ft. Barwon: At Mogil Mogil, falling, 13ft.; at Walgett, falling, 3 ft. Namoi: At Walgett, falling, 24ft. Culgoa: At Goodooga, falling, 7ft. 8in. Darling: At Brewarrina, rising, 21ft.; at Bourke, rising, 26ft. 4in.; at Louth, rising, 21t.; at Tilpa, rising, 24ft. 6in.; at Wilcannia, falling, 13ft. 6in.; at Menindie, rising, 24ft.; at Pooncarie, rising, 21ft. 4in; at Wentworth, 20ft. 2in. Murrumbidgee: At Gunagai, falling, 12ft. 10in.; at Wagga, 18ft.; at Hay, falling, 15ft.; at Balranald, 16ft. 8in. Murray: At Albury, 13ft. 5in.; at Euston, 23ft. 7in.

ASTRONOMICAL MEMORANDA FOR SEPTEMBER 7.

Sun rises at 6.12, sets at 5.44; Moon, 10.10 p.m., 8.37 a.m.; Mercury, 6.14 a.m., 5.28 p.m.; Venus, 6.42 a.m., 7.36 p.m.; Mars, 4.27 a.m., 2.41 p.m.; Jupiter, 8.31 a.m.; 9.40 p.m.; Saturn, 4.7 a.m., 2.17 p.m. Full moon, September 2; new moon, September 18.

High water at Fort Denison September 7: 10.53 a.m., 11.11 p.m.

H. A. LENEHAN,
Acting Government Astronomer.

METEOROLOGICAL REPORTS AND MAP FOR SEPTEMBER 10, 1887.

Stations.	Wt	Mx	Mn	Rn.
Albury ..	b	57	41	0
Armidale	b	54	29	0
Balranald	b	63	39	0
Bathurst	b	52	39	0·01
Berdem'r	c	57	35	0
Bodalla ..	b	63	38	0·06
Bourke ..	b	64	49	0
Buncarra	b	—	43	–
C'md'n H.	b	63	47	0
C. St. Geo.	b	61	45	0
Carcoar ..	g	50	31	0·01
Casino ..	b	75	39	0
Cassilis ..	b	58	41	0
Clarence ..	b	75	51	0
C'nd'b'lin	u	76	45	0
Cooma ..	n	60	29	0
Coonab'n.	b	63	28	0
Cowra	b	56	34	0
Cudg'll'co	u	63	41	0
Deniliq'n.	u	63	38	0·02
Dubbo	b	6[illegible]	32	0
Eden	b	56	45	0
Euston ..	b	65	44	0
Forbes ..	b	—	45	0
G'bo Isl'nd	–	–	–	–
Glen Inn's	b	57	36	0
Goulburn	g	59	37	0
Grafton ..	b	78	49	0
Gulgong ..	c	55	33	0
Gunned'h	b	63	38	0
Hay ..	b	62	41	0
Inverell ..	b	60	47	0
Kiandra ..	r	42	25	0
Lismore ..	b	76	46	0
Maitland ..	b	60	46	0
M'n'ng H.	b	67	44	0
Marsdens.	b	60	50	0
Menindie.	c	59	47	0
Molong ..	c	51	38	0
M'r'ng'r'll	b	61	39	0
Moree ..	b	72	40	0
Moruya ..	b	60	40	0·04
Moss Vale	b	52	40	0
Mt. Hope	u	60	43	0
[illegible]	b	49	39	0
Mudgee ..	g	66	36	0
M rr'nub'i	b	56	4[illegible]	0·01
M'rr'r'n'i	b	57	40	0
Musw'br'k	b	6[illegible]	[illegible]	0
Narrabri	b	62	3[illegible]	0
Newcastl	b	67	45	0
Orange ..	b	45	[illegible]	0
Picton ..	b	60	[illegible]7	0
P. M'q'rie	b	67	39	0
P. St'ph'n	b	65	44	0
Q'nbeyan	b	56	35	0
Quirindi	b	68	38	0
Singleton	b	[illegible]4	4[illegible]	0
SYDNEY ..	b	64	48	0
Taralga ..	b	51	34	0
Taree ..	b	71	41	0
T'nt'rfield	b	[illegible]9	34	0
Wagga ..	b	60	32	0
Walcha ..	n	52	28	0
Walgett ..	b	66	44	0
Warialda	b	66	35	0
Warrah	b	58	32	0
W'ntw'rth	b	60	46	0
W'll'ng'ng	b	66	47	0
Young	[illegible]	57	37	0

SYDNEY OBSERVATORY.

LATITUDE 33° 51′ 41″ S. LONGITUDE 10h. 4m. 50·81s. E.

MAGNETIC VARIATION, 9° 35′ 37″ E.

Average Annual Rainfall for 28 years .... 49·489

Average for 29 years from Jan. 1 to Aug. 31 1887 .. 38·195

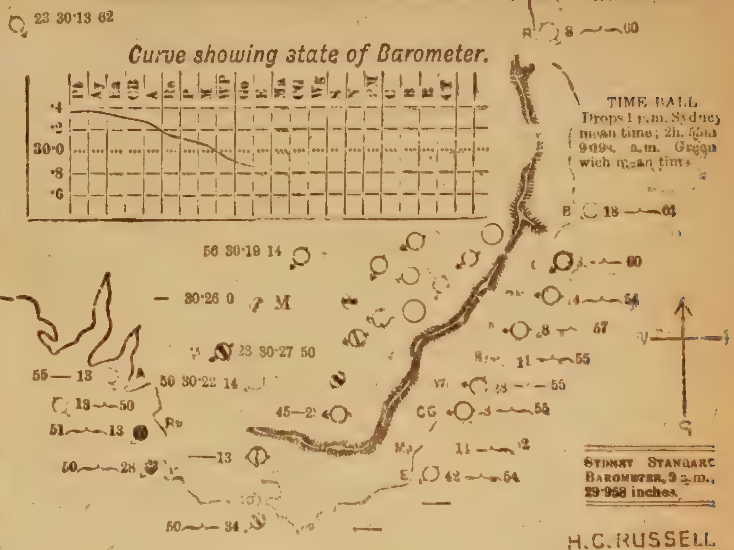
Total Rainfall from Jan. 1, to Sept. 10 1887 ..... 46·585

Barometers corrected to 32° Fah. and Mean Sea Level

Fine, wind N. Cloudy, wind E. T. storm, wind S. Rain, wind W.

If it is CALM, the symbol used without the arrow.

Smooth sea. Heavy sea. Very heavy sea.



H. C. RUSSELL,
GOVERNMENT ASTRONOMER.

NOTES EXPLANATORY OF MAP.

In the list of stations the column headed W. T. gives the state of the weather at 9 a.m. [illegible] standing for [illegible] sky [illegible] b, [illegible] d, [illegible] thre[illegible] [illegible] [illegible] hours. [illegible] the corresponding [illegible] hours. The symbols [illegible] the wind [illegible] coming. A clear circle [illegible] weather [illegible] the number [illegible] of the sea [illegible] and, lastly, figures [illegible] the temperature at 9 a.m. The barometer curve shows the state of barometers round the coast from Perth to Cooktown: P, Perth; Ay, Albany; Ea, Eucla; [illegible] Cape [illegible]; A, Adelaide; [illegible]; M, Melbourne; W, Wilson Promontory; Go, Gabo; [illegible]; Moruya; [illegible]; Sy, Sydney; N, Newcastle; P M, Port Macquarie; C, Clarence River; B, Brisbane; R, Rockhampton; Ck, Cooktown. Inland the state of barometer is given in figures at Albury, Deniliquin, Wentworth, Menindie, Bourke, and [illegible] Springs. The barometer curve enables one at a glance to trace the unevenness, beginning with Western Australia and passing along eastwards; northerly winds [illegible] ceding them and southerly following.

The rainfall on Sundays or holidays, when this map is not published, is in all cases included in the quantities shown by the next following map.

9 A.M. OBSERVATIONS.

Western Australia.—Generally fine, with light to fresh easterly winds and smooth sea; no rain reported. Extremes of barometers and temperature: Albany, 30·37; Cossack, 29·95; Ashburton, 73°; and Esperance Bay, 45°.

South Australia.—Generally fine, with scattered clouds; light rain in scattered places; light S. to S.W. winds and calms; smooth to moderate sea. Rainfall: Generally light and partial from 0·01 to 0·15 inch. Extremes of barometers and temperature: Eucla, 30·32; Port Darwin, 30·00 and 84°; Cape Northumberland, 51°.

Victoria.—Fine inland and in north parts; cloudy and unsettled, with showers at places on and near the coast; light to fresh S.W. and S. winds; slight to moderate sea. Extremes of barometers and temperature: Echuca, 30·16; Lakes Entrance, 29·96; Hors[illegible]am, 53·0; and Omeo, 44·0.

Tasmania.—Unsettled showery at Hobart; fresh to strong S.W. to S. winds; rough sea on east coast; moderate sea in the Straits. Rainfall: From 0·3 to ·4 in. on the east coast. Extremes of barometers and temperature: Circular Head, 29·86 and 46°; Falmouth, 29·66 and 57·0

New Zealand.—Showery in Cook Strait, with S. wind; fine in north and south parts, with N.E. to N.W. winds. Barometers: In north, 29·9; over centre, 29·5; in south, 29·8.

New South Wales.—More or less cloudy and gloomy in the [illegible] between the Lower Darling and the Lachlan; snowing at Kiandra. Over the remainder of the colony fine clear weather prevails. Winds are inland light W. to S. and calms; on and near the coast fresh W. to south-west seem to prevail. During the 24 hours ended 9 a.m. to-day light rain fell partially in the south-eastern parts of the colony. Extremes of barometers and temperature: Wentworth, 30·?7; Eden, 29·82; Clarence, 60°; and Kiandra, 37°. For further particulars see map.

Queensland.—In north parts hazy and more or less cloudy, with light south-east winds; in the south the weather continues very fine and clear; no rain reported. Extremes of barometers and temperature: Townsville, 30·18; Brisbane, 30·07; Roma, 55°; and Cooktown, 75°.

3 P.M. OBSERVATIONS.

Victoria.—Portland, W.S.W., 23, cloudy and showery, slight sea, temperature, 4[illegible]°; [illegible], S.W., 25, squally, with rain slight sea, temperature, 43°.

New South Wales. Menindie, calm, dull, like rain, temperature 57°; Wentworth, S.W., fine, temperature 51°; Deniliquin, W., dull, temperature 61°; Eden, S.W., 28, fine, smooth sea, temperature 59°; Moruya, S.W., 28, cloudy and dull, smooth sea, temperature, 61°; Cape St. George, S.W. 4 fine smooth sea, temperature, 58°; Sydney, S.W. 17, fine, smooth sea; Newcastle, W., 14, fine, smooth sea, temperature 65°; Port Macquarie, S.E., 26, fine, smooth sea, temperature 69°; Clarence River, W., 14, fine, smooth sea, temperature 67°; Walgett, calm, fine, temperature 60°; Dubbo, W., 14, cloudy, temperature 57°; Goulburn, W., dull.

Queensland. Blackall, N.E., fine and warm; Townsville, S.E. 13, fine, smooth sea, temperature 73°; Mackay, S.E., 13, cloudy; Thursday Island, S.E., 18, cloudy, temperature, 79°; Rockhampton, E.N.E., 18, fine but cloudy, temperature 72°; Point [illegible], S.E., 23, fine and cool; Cape Moreton, W., 18, fine, temperature 57°; Brisbane, W., 23, fine, temperature 72°; Hughenden, 13, fine and hot.

HEIGHT OF RIVERS ABOVE SUMMER LEVEL.

Macintyre: At Mungindi, rising 9ft. 6in. Barwon: At Mogil Mogil, falling 10ft. [illegible]; at Walgett, falling 27ft. 6in. Namoi: At Walgett, falling, 19ft. [illegible] Culgoa: At Goodooga, rising, 8ft. Darling: At Brewarrina, rising, 22ft.; at Bourke, rising, 28ft.; at Louth, rising, 24ft. 3in.; at Tilpa rising, 26ft. 4in.; at Wilcannia, falling, 23ft. 2in.; at Menindie, 13ft. 7in.; at Pooncarie, 21ft. 7in.; at Wentworth, 20ft. 7in. Murrumbidgee: At Gundagai, falling, 15ft.; at Wagga, 21ft.; at Hay, falling, 12ft. 6in.; at Balranald, 16ft. 7in. Murray: At Albury, 13ft.; at Euston, 24ft. 2in.

ASTRONOMICAL MEMORANDA FOR SEPTEMBER 12.

Sun rises at 6.5, sets at 5.48; Moon rises at 12.54 a.m., sets at 11.8 a.m.; Mercury, 6.15 a.m., 5.48 p.m.; Venus, 6.15 a.m., 7.9 p.m.; Mars, 4.18 a.m., 2.36 p.m.; Jupiter, 8.15 a.m., 9.25 p.m.; Saturn, 3.48 a.m., 2 p.m. Full moon, September 2; new moon, September 18.

High water at Fort Denison: 2.9 a.m., 2.42 p.m.

H. A. LENEHAN,
Acting Government Astronomer.

Stations.	wt	Mx	Mn	Rn.
Albury ..	b	66	33	0
Armidale	b	60	34	0
Balranald	b	53	38	0
Bathurst	b	66	32	0
Bendem'r	b	62	33	0
Bodalla ..	b	64	45	0
Bourke ..	b	84	53	0
Bungarra	b	—	41	0
C'md'n H.	b	68	47	0
C.St.Geo.	b	66	49	0
Carcoar ..	b	59	31	0
Casino ..	b	77	42	0
Cassilis ..	b	64	41	0
Clarence ..	b	73	52	0
C'nd'b'lin	b	79	43	0
Cooma ..	n	68	29	0
Coonab'n.	n	73	31	0
Cowra ..	b	74	43	0
Cudg'llico	b	73	41	0
Deniliq'n.	b	74	38	0
Dubbo ..	b	73	35	0
Eden	b	62	45	0
Euston ..	b	82	36	0
Forbes ..	b	—	46	0
G'bo Isl'nd	c	69	50	0
Glen Inn's	b	68	36	0
Goulburn	f	67	31	0
Grafton ..	b	74	53	0
Gulgong ..	b	65	29	0
Gunned'h	-	—	—	-
Hay	b	73	46	0
Inverell ..	b	67	37	0
Kiandra ..	n	61	16	0
Lismore ..	b	78	45	0
Maitland ..	b	71	42	0
M'n'ng H.	b	63	43	0
Marsdens.	b	71	42	0
Menindie.	b	71	47	0
Molong ..	b	48	33	0
M'r'ng'r'll	b	70	39	0
Moree ..	b	82	42	0
Moruya ..	b	65	47	0
Moss Vale	-	—	—	-
Mt. Hope	b	79	51	0
M. Vict'ria	b	58	39	0
Mudgee ..	b	75	33	0
M'rr'mb'h	b	72	37	0
M'rr'r'ndi	b	64	44	0
Mus'lbr'k	b	70	35	0
Narrabri	b	72	42	0
Newcastle	b	69	49	0
Orange ..	b	58	36	0
Picton ..	b	67	36	-
P. M'q'rie	b	67	45	0
P. St'ph'n	b	63	42	0
Q'nbeyan	n	61	32	0
Quirindi	b	79	43	0
Singleton	b	66	47	0
SYDNEY ..	b	66	47	0
Taralga ..	b	65	30	0
Taree	b	71	46	0
T'nt'rfield	b	66	34	0
Wagga ..	b	74	30	0
Walcha ..	n	60	26	0
Walgett	b	71	47	0
Warialda	b	75	35	0
Warrah ..	b	70	39	0
W'ntw'rth	b	74	46	0
W'll'ng'ng	b	70	43	0
Young ..	b	81	31	0

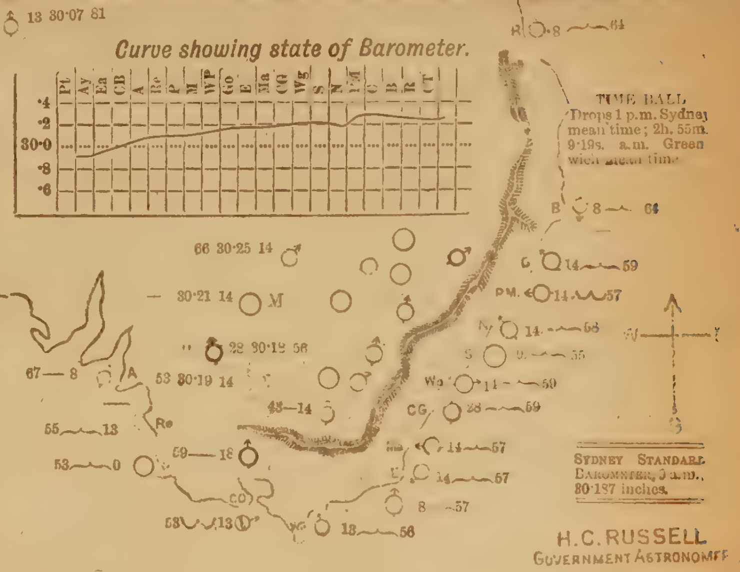
SYDNEY OBSERVATORY.

LATITUDE 33° 51' 41" S. LONGITUDE 10h. 4m. 50·5s. E.

MAGNETIC VARIATION, 9° 35' 37" E.

Average Annual Rainfall for 28 years .... 49·1·0
Average for 29 years from Jan. 1 to Aug. 31 1887 .. 38·195
Total Rainfall from Jan. 1, to Sep.. 17 1887 ...... 47·949

Barometers corrected to 32° Fah. and Mean Sea Level



H. C. RUSSELL
GOVERNMENT ASTRONOMER

NOTES EXPLANATORY OF MAP.

In the list of stations the column headed W.T. gives the state of the weather at 9 a.m., b standing for blue sky; c, detached clouds; d, drizzling rain; f, fog; g, gloomy; h, hazy; m, misty; n, frosty; o, overcast; p, passing showers; r, rain; s, snow; t, thunder; u, threatening. The next column, M'x gives the maximum temperature for previous 24 hours. M'n the corresponding minimum temperature; R'n, the rain for the previous 24 hours. The symbols used in the map are explained on the margin. At each coast station the wind symbol is placed like a vane pointing to the direction from which the wind is coming. A clear circle with it means fine weather; a circle with bar, cloudy weather; and a black spot, raining. Next to this symbol are placed figures denoting the number of miles the wind is moving per hour; next, a symbol showing the state of the sea; and, lastly, figures denoting the shade temperature at 9 a.m. The barometer curve shows the state of barometers round the coast from Perth to Cooktown:- Pt, Perth; Ay, Albany; Ea, Eucla; CB, Cape Borda; A, Adelaide; Re, Robe; P, Portland; M, Melbourne; W P, Wilson's Promontory; Go, Gabo; E, Eden; Ma, Moruya; CG Jervis Bay; Wg, Wollongong; S, Sydney; N, Newcastle; PM, Port Macquarie; C, Clarence River; B, Brisbane; R, Rockhampton; Ct, Cooktown. Inland the state of barometer is given in figures at Albury, Deniliquin, Wentworth, Menindie, Bourke, and Alice Springs. The barometer curve enables one at a glance to trace the [illegible], beginning with Western Australia, and passing along eastwards; northerly winds preceding them, and southerly following.

The rainfall on Sundays or holidays, when this map is not published, is in all cases included in the quantities shown by the next following map.

9 A.M. OBSERVATIONS.

Western Australia.—In N.W. parts fine, with easterly winds and calms; in S.W. and S. cloudy, gloomy, and threatening, with light N.W. to W. winds and smooth to moderate sea. Rainfall: Perth, 0.35in. Extremes of barometers and temperature: Ashburton, 30·12; Albany, 29·86; Cossack, 78°; and Albany, 53°.

South Australia.—Generally fine; but unsettled at places south of Charlotte Waters; light N. to N.E. winds, moderate sea; in Northern Territory, fine and calm. No rain reported. Extremes of barometers and temperature: Daly Waters, 30·13; Streaky Bay, 29·92; Port Darwin, 80°. and Cape Northumberland, 54°.

Victoria.—Fine inland; scattered clouds on and near the coast, and in parts threatening; light northerly winds; smooth to moderate sea. Cape Otway reports a rather rough sea, and light east wind. Last night a pale Aurora Australis was visible. Extremes of barometers and temperature: Echuca, 30·19; Hamilton, 29·92; Horsham, 57°; and Omeo, 45°.

Tasmania.—Fine generally; light variable winds; foggy at Low Heads; smooth sea. Rainfall: 0·03 inch, at Hobart. Extremes of barometers and temperature: Low Heads, 30·13 and 90°; Falmouth, 30·05 and 54°.

New South Wales.—Fine and clear, pleasant weather throughout the colony; winds generally very light; northerly inland, westerly on the coast, but mostly calm. The sea is smooth to moderate, and still rough off Port Macquarie. No rain has fallen in the colony during the past 24 hours. Extremes of barometers and temperature: Walgett, 30·25, Albury, 30·14; Bourke, 66°; and Kiandra, 38°. For further particulars see map.

Queensland.—Fine weather continues over the country, with almost clear skies; light S. to E. winds and calms; slight sea in south, and moderate in north. Extremes of barometers and temperature: Cooktown, 30·26; Roma, 30·11; Thursday Island, 78°; and 64° on the South Coast generally.

3 P.M. OBSERVATIONS.

Victoria.—Portland, S.E., 18, fine and clear, smooth sea, temperature 61°; Cape Otway, calm, fine, moderate sea, temperature 61°; Wilson's Promontory, N., 13, fine but cloudy, moderate sea, temperature 59°.

New South Wales.—Menindie, N.W., 14, fine, temperature 67°; Wentworth, N.W., 14, fine, temperature 60°; Deniliquin, N.E., 14, fine, temperature 68°; Eden, E., 14, fine, light sea, temperature 59°; Moruya, N E., 28, cloudy and threatening, moderate sea, temperature, 66°; Cape St. George, N., 42, fine, moderate sea, temperature, 63°; Sydney, NE., fine, smooth sea; Port Macquarie, N.E., 28, fine, heavy sea, temperature 70°; Clarence River, E.N.E., 14, fine, sea moderate, temperature 69°; Walgett, N.W., 14, fine and warm, temperature 76°; Goulburn, calm, fine.

Queensland.—Townsville, calm, fine, smooth sea, temperature 74°; Mackay, S.E., 28, fine; Blackall, calm, fine, but cloudy and warm; Thargomindah, S.W., fine, and warm; Hughenden, NE., 13, fine, and hot; Rockhampton, E.N.E., 18, cloudy, stormy to wet, temperature 73°; Cape Moreton, N.E., 8, fine, moderate sea, temperature 71°; Boulia, N.E., 23, fine, clear, and warm.

HEIGHT OF RIVERS ABOVE SUMMER LEVEL.

Macintyre: At Mungindi, 18ft. Barwon: At Mogil Mogil, 16ft.; at Walgett, 30ft. Namoi: At Walgett, 19ft. Culgoa: At Goodooga, 5ft. Darling: At Brewarrina, 21ft.; at Bourke, 30ft.; at Louth, 26ft. 10in.; at Tilpa, 30ft. 5in.; at Wilcannia, 28ft. 1in.; at Menindie, 23ft. 8in.; at Pooncarie, 23ft. 2in.; at Wentworth, 21ft. 9in. Murrumbidgee: At Gundagai, 8ft.; at Wagga, 12ft.; at Hay, 14ft. 10in.; at Balranald, 10ft. 6in. Murray: At Albury, 11ft. 3in.; at Euston, 23ft. 1in.

ASTRONOMICAL MEMORANDA FOR SEPTEMBER 19.

Sun rises at 5.56, sets at 5.53; Moon rises at 7.15 a.m., sets at 7.29 p.m.; Mercury, 6.17 a.m., 6 19 p.m.; Venus, 5.29 a.m. 6.16 p.m.; Mars, 4.5 a.m., 2.30 p.m.; Jupiter, 7.51 a.m., 9.3 p.m.; Saturn, 3.24 a.m., 1.36 p.m. Full moon, September 2; new moon, September 18.

High water at Fort Denison: 9.21 a.m., 9.42 p.m.

H. A. LENEHAN,
Acting Government Astronomer.

METEOROLOGICAL REPORTS AND MAP FOR SEPTEMBER 27, 1887.

Stations.	Wt	Mx	Mn	Rn
Albury ..	b	64	36	0
Armidale	c	56	34	0
Balranald	b	73	41	0
Bathurst	b	57	30	0
Bendem'r	n	55	32	0
Bodalla ..	b	62	33	0
Bourke ..	b	74	46	0
Buncarra	b	—	46	0
C'md'n H.	–	—	—	–
C. St. Geo.	b	63	47	0
Carcoar ..	b	63	36	0
Casino ..	b	80	45	0
Cassilis ..	b	61	39	0
Clarence .	b	77	52	0
C'nd'b'lin	b	84	44	0
Cooma ..	n	56	26	0
Coonab'n.	n	66	32	0
Cowra ..	b	71	39	0
Cudg'llico	b	72	41	0
Deniliq'n.	b	70	32	0
Dubbo ..	b	65	32	0
Eden	b	58	44	0
Euston ..	b	74	36	0
Forbes ..	b	—	46	0
G'bo Isl'nd	g	55	48	0·02
Glen Inn's	b	67	31	0
Goulburn	b	60	29	0
Grafton ..	b	76	53	0
Gulgong .	b	60	30	0
Gunned'h	b	71	40	0
Hay	b	70	40	0
Inverell. .	b	66	34	0
Kiandra. .	n	52	20	0
Lismore .	b	81	51	0
Maitland .	b	70	44	0
M'n'ng H.	b	63	42	0
Marsdens.	b	66	44	0
Menindie.	g	67	47	0
Molong ..	b	51	33	0
M'r'ng'r'll	b	67	36	0
Moree ..	b	77	38	0
Moruya ..	b	65	41	0
Moss Vale	b	56	37	0

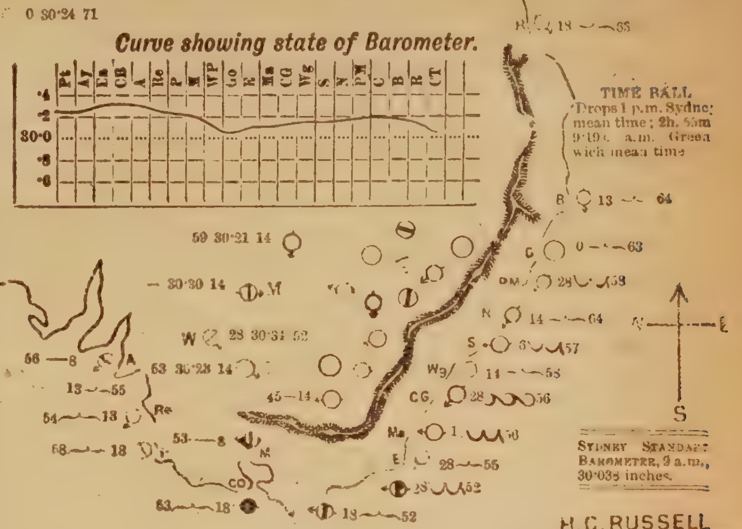
Stations.	Wt	Mx	Mn	Rn
Mt. Hope	g	72	47	0
M. V'ct'ria	b	55	32	0
Mudgee ..	b	73	30	0
M'rr'mb'h	b	67	34	0
M'rr'r'ndi	b	62	42	0
Mus'lbr'k	b	70	37	0
Narrabri	g	70	40	0
Newcastle	b	70	47	0
Orange ..	n	53	34	0
Picton ..	b	65	35	0
P. M'q'rie	h	68	45	0
P. St'ph'n	c	61	44	0
Q'nbeyan	b	67	39	0
Quirindi	b	79	40	0
Singleton	b	66	48	0
SYDNEY ..	b	62	47	0
Taralga ..	b	71	29	0
Taree	b	71	38	0
T'nt'rfield	b	65	39	0
Wagga ..	b	68	30	0
Walcha ..	n	56	24	0
Walgett	b	69	47	0
Warialda	b	74	33	0
Warrah ..	b	68	39	0
W'ntw'rth	c	68	46	0
W'll'ng'ng	b	65	47	0
Young ..	b	76	33	0

SYDNEY OBSERVATORY.

LATITUDE 33° 51' 41" S. LONGITUDE 10h. 4m. 50·81s. E.
MAGNETIC VARIATION, 9° 35' 37" E.

Average Annual Rainfall for 28 years .... 49·489
Average for 29 years from Jan. 1 to Aug. 31 1887 .. 38·105
Total Rainfall from Jan. 1, to Sep.. 27 1887 ...... 47·976

Barometers corrected to 32° Fah. and Mean Sea Level



H. C. RUSSELL
GOVERNMENT ASTRONOMER

NOTES EXPLANATORY OF MAP.

In the list of stations the column headed W.T. gives the state of the weather at 9 a.m., b standing for blue sky; c, detached clouds; d, drizzling rain; f, fog; g, gloomy; h, hazy; m, misty; n, frosty; o, overcast; p, passing showers; r, rain; s, snow; t, thunder; u, threatening. The next column, Mx gives the maximum temperature for previous 24 hours. M'n the corresponding minimum temperature; Rn, the rain for the previous 24 hours. The symbols used in the map are explained on the margin. At each coast station the wind symbol is placed like a vane pointing to the direction from which the wind is coming. A clear circle with it means fine weather; a circle with bar, cloudy weather; and a black spot, raining. Next to this symbol are placed figures denoting the number of miles the wind is moving per hour; next, a symbol showing the state of the sea; and, lastly, figures denoting the shade temperature at 9 a.m. The barometer curve shows the state of barometers round the coast from Perth to Cooktown: Pt, Perth; Ay, Albany; Ea, Eucla; CB, Cape Borda; A, Adelaide; Re, Robe; P, Portland; M, Melbourne; W P, Wilson's Promontory; Go, Gabo; E, Eden; Ma, Moruya; CG Jervis Bay; Wg, Wollongong; S, Sydney; N, Newcastle; PM, Port Macquarie; C, Clarence River; B, Brisbane; R, Rockhampton; Ct, Cooktown. Inland the state of barometer is given in figures at Albury, Deniliquin, Wentworth, Menindie, Bourke, and Alice Springs. The barometer curve enables one at a glance to trace the depressions, beginning with Western Australia, and passing along eastwards; northerly winds preceding them, and southerly following.

The rainfall on Sundays or holidays, when this map is not published, is in all cases included in the quantities shown by the next following map.

9 A.M. OBSERVATIONS.

Western Australia.—Generally fine, with light easterly winds, and smooth to moderate sea. Extremes of barometers and temperature: Geraldton, 30·26; Cossack, 30·05 and 78°; Albany, 53°.

South Australia.—Generally fine inland; scattered clouds on and near the coast; light N.E. to S.E. winds and calms; smooth to moderate sea. Rainfall: Robe, 0·04; and Port Lincoln, 0·05in. In Northern Territory fine weather, with S.E. winds and calms, prevail. Extremes of barometers and temperature: Eucla, 30.29; Port Darwin, 30·01; Daly Waters, 86°; and Cape Northumberland, 54°.

Victoria.—More or less cloudy, but otherwise fine weather prevails inland; on parts of the coast it is raining lightly. Winds are light to fresh, from W. to S.W. and South. The sea is moderate. Rainfall: In scattered places from 0·02 to 0·05 inches. Extremes of barometers and temperature: Ballarat, 30·23; Wilson's Promontory, 30·05; Horsham, 57°; and Hamilton, 47°.

Tasmania.—More or less cloudy, but otherwise fine generally; light to fresh westerly winds, moderate sea, but rough off Falmouth; squally in the Straits; 0·01 inch rain at Hobart. Extremes of barometers and temperature: Circular Head, 30·05 and 51°; Falmouth, 29·94; and Southport, 53°.

New Zealand.—Showery on the West Coast, fine in east; light to fresh N.E. to N.W. winds. Barometers: In north, 29·60; over centre, 29·50; in south, 29·30.

New South Wales.—Generally fine and cool; cloudy at scattered places, and on the high table-lands frosts. Winds are generally light variable, chiefly southerly, and in many places calm. The sea is very heavy off Cape St. George; heavy or rough off Port Macquarie, South Head, Moruya, and Gabo Island. During the last 24 hours only one of the weather stations had rain, viz., Gabo Island. Extremes of barometers and temperature at 9 a.m.: Wentworth, 30·34; Gabo, 30·01; Newcastle, 64°; and Cooma, 42°. For further particulars see map.

Queensland.—Very fine and clear weather throughout; light S.E. to N.E. winds; generally smooth sea. Extremes of barometers and temperature: Roma, 30·12; Cooktown, 30°; Normanton, 82°; and Cape Moreton, 63°.

3 P.M. OBSERVATIONS.

Victoria.—Portland, S.S.W., 28, misty showers, smooth sea, temperature 57°; Cape Otway, S.W., 23, cloudy, moderate sea, temperature 53°; Melbourne, S., 13, cloudy and gloomy, temperature 55°; Wilson's Promontory, W.S.W., 23, cloudy and squally, moderate sea, temperature 52°; Lakes Entrance, W., 23, cloudy, temperature 61°; Omeo, S.E., 13, cloudy, temperature 55°.

South Australia.—Adelaide, S.S.W., 13, light rain, temperature 57°.

New South Wales.—Eden, S.W., 14, fine, light easterly sea, temperature 65°; Moruya, E.N.E., 28, fine, moderate sea, temperature 59°; Cape St. George, S.E., 14, fine, very heavy sea, temperature 61°; Sydney, E., 14, fine and hazy, moderate sea, temperature 59°; Newcastle, S.E., 14, fine, moderate sea, temperature 59°; Port Macquarie, S.E., 42, fine and hazy, heavy sea, temperature 69°; Clarence River, S.E., 14, fine, moderate sea, temperature 67°; Walgett, S.E., 14, fine, temperature 69°; Dubbo, N.N.W., 14, fine, temperature 61°; Goulburn, calm, fine.

Queensland.—Blackall, calm, fine, clear, and warm; Hughenden, W., 18, fine and warm; Rockhampton, N.E., 18, fine, temperature 75°; Roma, E., 8, fine, temperature 75°; Cape Moreton, S.E., 18, fine and hazy, temperature 68°; Brisbane, N.E., 13, cloudy, temperature 71°; Boulia, S.E., 23, fine; Thargomindah: S.E., cloudy.

HEIGHT OF RIVERS ABOVE SUMMER LEVEL.

Macintyre: At Mungindi, falling, 8ft. 6in. Barwon: At Mogil Mogil, falling, 12ft. 6in.; at Walgett, falling, 30ft. 6in. Namoi, At Walgett, falling, 20ft. 6in. Darling: At Brewarrina, rising, 21ft. 2in.; at Bourke, falling, 29ft. 2in.; at Louth, rising, 28ft. 1in.; at Tilpa, rising, 33ft. 2in.; at Wilcannia, rising, 30ft. 4in.; at Menindie, 24ft. 9in.; at Pooncarie, 22ft. 1in.; at Wentworth, 21ft. 10in. Murrumbidgee: At Gundagai, falling, 5ft.; at Wagga, 11ft. 9in.; at Hay, rising, over banks; at Balranald, 16ft. 2in.; Murray: At Albury, 10ft. 10in.; at Euston, 22ft. 5in.

ASTRONOMICAL MEMORANDA FOR SEPTEMBER 28.

Sun rises at 5.43, sets at 5.59; Moon rises at 2.42 p.m.; sets at 3.18 a.m.; Mercury, 6.19 a.m., 6 55 p.m.; Venus, 4.41 a.m., 5.11 p.m.; Mars, 3.46 a.m., 2.22 p.m.; Jupiter, 7.21 a.m., 8.37 p.m.; Saturn, 2.51 a.m., 1.5 p.m. Full moon, September 2; new moon, September 18.

High water at Fort Denison: 5.11 a.m., 5.42 p.m.

H. A. LENEHAN,
Acting Government Astronomer.

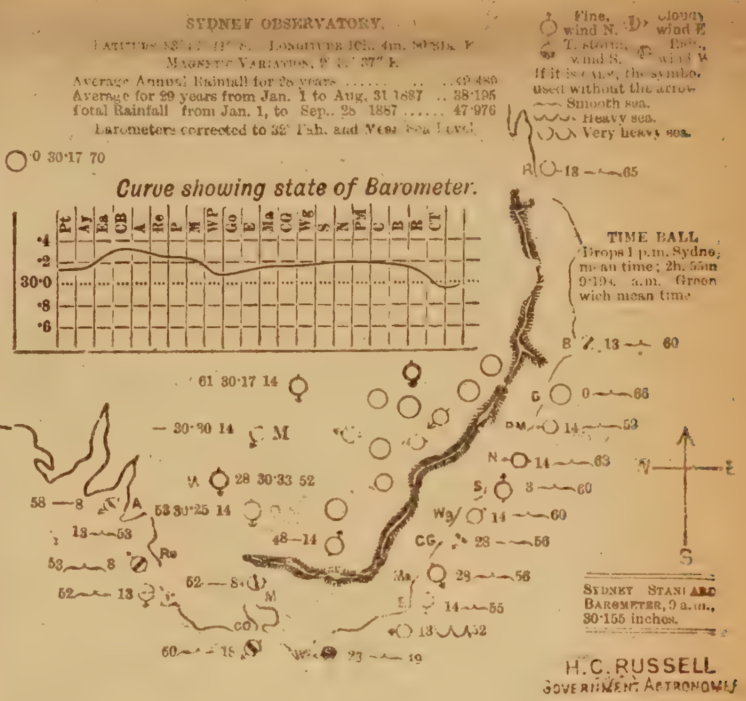
METEOROLOGICAL REPORTS AND MAP FOR SEPTEMBER 28, 1887.

Stations.	wt	Mx	Mn	Rn.
Albury ..	b	66	39	0
Armidale	b	61	37	0
Balranald	b	81	40	0
Bathurst	b	65	32	0
Bendem'r	n	62	33	0
Bodalla ..	b	63	45	0
Bourke ..	b	75	48	0
Bungarra	b	—	41	0
C'md'n H.	b	66	46	0
C. St. Geo.	c	64	47	0
Carcoar ..	n	62	31	0
Casino ..	b	76	47	0
Cassilis ..	b	61	39	0
Clarence .	b	77	52	0
C'nd'b'lin	b	83	45	0
Cooma ..	c	64	38	0
Coonab'n.	n	72	28	0
Cowra ..	b	76	41	0
Cudg'llico	b	72	42	0
Deniliq'n.	b	70	31	0
Dubbo ..	b	71	33	0
Eden	b	65	50	0
Euston ..	b	75	36	0
Forbes ..	b	—	48	0
G'bo Isl'nd	c	58	50	0·02
Glen Inn's	g	67	39	0
Goulburn	g	65	37	0
Grafton ..	b	80	51	0
Gulgong .	b	64	32	0
Gunned'h	b	71	41	0
Hay ..	b	70	41	0
Inverell ..	b	67	37	0
Kiandra ..	f	61	20	0
Lismore .	b	80	53	0
Maitland .	b	70	43	0
M'n'ng H.	b	62	40	0
Marsdens.	b	70	46	0
Menindie.	b	67	46	0
Molong ..	b	61	30	0
M'r'ng'r'll	b	68	34	0
Moree ..	b	81	42	0
Moruya ..	b	64	45	0
Moss Vale	b	65	41	0
Mt. Hope	b	76	47	0
M. Vict'ria	b	61	32	0
Mudgee ..	b	73	31	0
M'rr'mb'h	b	69	35	0
M'rr'ndi	b	63	40	0
Mus'lbr'k	b	68	37	0
Narrabri	b	73	39	0
Newcastle	b	61	51	0
Orange ..	b	57	35	0
Picton ..	b	65	41	0
P. M'q'rie	h	65	42	0
P. St'ph'n	b	58	42	0
Q'nbeyan	b	70	38	0
Quirindi	b	70	40	0
Singleton	b	67	47	0
SYDNEY ..	h	62	53	0
Taralga ..	b	73	31	0
Taree	b	71	47	0
T'nt'rfield	b	69	46	0
Wagga ..	b	70	30	0
Walcha ..	b	61	36	0
Walgett	b	71	46	0
Warialda	b	74	34	0
Warrah ..	b	70	37	0
W'ntw'rth	b	68	42	0
W'll'ng'ng	b	69	45	0
Young ..	b	74	35	0

SYDNEY OBSERVATORY.

Latitude 33° 51' 41" S. Longitude 10h. 4m. 50·8 s. E.
Magnetic Variation, 9° 51' 37" E.

Average Annual Rainfall for 26 years .... 49·480
Average for 29 years from Jan. 1 to Aug. 31 1887 .. 38·195
Total Rainfall from Jan. 1, to Sep. 28 1887 ...... 47·976
Barometers corrected to 32° Fah. and Mean Sea Level.



NOTES EXPLANATORY OF MAP.

In the list of stations the column headed W.T. gives the state of the weather at 9 a.m., b standing for blue sky; c, detached clouds; d, drizzling rain; f, fog; g, gloomy; h, hazy; m, misty; n, frosty; o, overcast; p, passing showers; r, rain; s, snow; t, thunder; u, threatening. The next column, M'x gives the maximum temperature for previous 24 hours. M'n the corresponding minimum temperature; R'n, the rain for the previous 24 hours. The symbols used in the map are explained on the margin. At each coast station the wind symbol is placed like a vane pointing to the direction from which the wind is coming. A clear circle with it means fine weather; a circle with bar, cloudy weather; and a black spot, raining. Next to this symbol are placed figures denoting the number of miles the wind is moving per hour; next, a symbol showing the state of the sea; and, lastly, figures denoting the shade temperature at 9 a.m. The barometer curve shows the state of barometers round the coast from Perth to Cooktown: Pt, Perth; Ay, Albany; Ea, Eucla; CB, Cape Borda; A, Adelaide; Re, Robe; P, Portland; M, Melbourne; WP, Wilson's Promontory; Go, Gabo; E, Eden; Ma, Moruya; CG, Jervis Bay; Wg, Wollongong; S, Sydney; N, Newcastle; PM, Port Macquarie; C, Clarence River; B, Brisbane; R, Rockhampton; Ct, Cooktown. Inland the state of barometer is given in figures at Albury, Deniliquin, Wentworth, Menindie, Bourke, and Alice Springs. The barometer curve enables one at a glance to trace the depressions, beginning with Western Australia, and passing along eastwards; northerly winds preceding them, and southerly following.

The rainfall on Sundays or holidays, when this map is not published, is in all cases included in the quantities shown by the next following map.

9 A.M. OBSERVATIONS.

Western Australia.—Generally fine, but more or less cloudy; foggy at Perth; light variable winds and calms, smooth sea. Extremes of barometers and temperature: Geraldton, 30·16; Esperance Bay, 30·06; Ashburton, 80°; and Perth, 53°.

South Australia.—Fine inland, and in Northern Territory; scattered clouds on and near the coast; light south to east winds and calms, smooth sea; light rain at a few scattered places on the coast. Extremes of barometers and temperature: Cape Borda, 30.31; Port Darwin, 29·97 and 87°; Cape Northumberland, 52°.

Victoria.—Inland, more or less cloudy; on parts of the coast light misty rain; light to fresh W. to S.W. and south winds; moderate sea, but rising at Cape Otway; squally in the Straits. Rainfall: On and near the coast generally, from 0·01 to 0·04in. Extremes of barometers and temperature: Horsham, 30·27 and 56°; Wilson's Promontory, 30·15; and Ballarat, 47°.

Tasmania.—More or less cloudy and unsettled; light to fresh westerly winds and calms, moderate sea. Extremes of barometers and temperature: Circular Head, 30·11 and 51°; Hobart, 30·01 and 54°.

New Zealand.—Generally showery and squally; fresh to strong N.W. to S.W. winds. Barometers: In north, 29·70; over centre, 29·30; in south, 29·20.

New South Wales.—Fine, cool, pleasant weather throughout; scattered clouds in south-east parts; haze in north-east; frosts at places on the high table lands; fog at Kiandra. Winds are very light and variable or calm generally. The sea is moderating, but still rather rough off Gabo. The only station reporting rain during the last 48 hours is Gabo Island. Extremes of barometers and temperature: Wentworth 30·33; Gabo, 30·06; Clarence, 66°; and Kiandra, 45°. For further particulars see map.

Queensland.—Fine weather continues in the interior; on the coast more or less cloudy weather prevails. It is raining at places in extreme S.E. parts, and thunderstorms prevail in the Moreton district. Rainfall: Cape Moreton, 0·58; and Brisbane, 0·21 inch. Extremes of barometers and temperature: Brisbane, 30·17; Cooktown, 29·97 and 80°; Roma, 56°.

3 P.M. OBSERVATIONS.

South Australia.—Adelaide, S.S.W., 13, cloudy, temperature 59°.

Victoria.—Portland, S.S.W., 23, cloudy, smooth sea, temperature 53°; Cape Otway, W., 18, cloudy, moderate sea, temperature 54°; Melbourne, S.S.W., 13, cloudy, temperature 54°; Cape Schanck, S.W., 13, fine but cloudy, smooth sea, temperature 55°; Wilson's Promontory, W., 18, cloudy, moderate sea, temperature 53°; Lakes Entrance, W., 23, cloudy, temperature 60°; Omeo, S., 18, fine, 59°.

New South Wales.—Menindie, calm, fine, temperature 64°; Wentworth, S.W., fine, temperature 57°; Deniliquin, calm, 10, fine, temperature 66°; Eden, S.E., 14, fine, smooth sea, temperature 56°; Moruya, E., 14, fine, smooth sea, temperature 68°; Cape St. George, S.E., 28, fine, sea moderating, temperature 62°; Sydney, E.N.E., 17, fine and pleasant, smooth sea, temperature 61°; Newcastle, N.E., 14, fine, smooth sea, temperature 68°; Port Macquarie, E., 14, fine and hazy, moderate sea, temperature 70°; Clarence River, E., 14, fine, moderate sea, temperature 68°; Walgett, calm, fine, temperature 72°; Dubbo, W.S.W., 14, fine, temperature 67°; Goulburn, calm, fine.

Queensland.—Mackay, N.E., 28, cloudy; Thargomindah, S., fine; Hughenden, S.W., 34, squally but warm; Rockhampton, E.S.E., 23, threatening, temperature 72°; Roma, calm, cloudy, temperature 68°; Cape Moreton, N.E., 13, fine, temperature 60°; Brisbane, N.N.E., 18, fine but cloudy, temperature 68°.

HEIGHT OF RIVERS ABOVE SUMMER LEVEL.

Macintyre: At Mungindi, falling, 7ft. 9in. Barwon: At Mogil Mogil, falling, 10ft.; at Walgett, falling, 29ft. 6in. Namoi, At Walgett, falling, 20ft. Culgoa, at Goodoga, low. Darling: At Brewarrina, rising, 21ft. 3in.; at Bourke, falling, 29ft. 1in.; at Louth, rising, 28ft. 4in.; at Tilpa, rising, 33ft. 7in.; at Wilcannia, rising, 30ft. 5in.; at Menindie, 24ft. 10in.; at Pooncarie, 22ft. 2in.; at Wentworth, 21ft. 9in. Murrumbidgee: At Gundagai, rising, 5ft. 6in.; at Wagga, 12ft.; at Hay, falling, 18ft. 7in.; at Balranald, 16ft. Murray: At Albury, 10ft. 11in.; at Euston, 22ft. 7in.

ASTRONOMICAL MEMORANDA FOR SEPTEMBER 29.

Sun rises at 5.42, sets at 6.0; Moon rises at 3.39 p.m.; sets at 3.58 a.m.; Mercury, 6.19 a.m., 6 59 p.m.; Venus, 4.30 a.m., 5.5 p.m.; Mars, 3.44 a.m., 2.21 p.m.; Jupiter, 7.18 a.m., 8.34 p.m.; Saturn, 2.47 a.m., 1.1 p.m. Full moon, September 2; new moon, September 18.

High water at Fort Denison: 6.12 a.m., 6.36 p.m.

H. A. LENEHAN,
Acting Government Astronomer.

METEOROLOGICAL REPORTS AND MAP FOR SEPTEMBER 30, 1887

Stations.	W.T.	Mx	Mn	R'n
Albury ..	b	68	41	0
Armidale	b	66	42	0
Balranald	b	84	40	0
Bathurst	b	69	36	0
Bendem'r	b	67	40	0
Bodalla ..	b	64	48	0
Bourke ..	b	85	56	0
Bungarra	b	—	46	0
C'md'n H.	b	70	51	0
C. St. Geo.	b	68	71	0
Carcoar ..	b	60	36	0
Casino ..	b	76	48	0
Cassilis ..	b	67	45	0
Clarence .	b	75	56	0
C'nd'b'lin	b	83	46	0
Cooma ..	f	73	34	0
Coonab'n.	b	75	43	0
Cowra ..	b	76	43	0
Cudg'llico	b	79	46	0
Deniliq'n.	b	74	41	0
Dubbo ..	b	78	40	0
Eden	g	60	54	0·25
Euston ..	b	81	48	0
Forbes ..	b	—	48	0
G'bo Isl'nd	g	66	53	0·02
Glen Inn's	b	60	40	0
Goulburn	b	72	40	0
Grafton ..	b	78	51	0
Gulgong ..	b	69	34	0
Gunned'h	b	77	42	0
Hay	b	73	42	0
Inverell ..	b	70	41	0
Kiandra ..	n	61	21	0
Lismore .	b	71	53	0·47
Maitland .	b	73	46	0
M'n'ng H.	b	70	46	0
Marsdens.	b	73	49	0
Menindie.	b	73	50	0
Molong ..	b	64	35	0
M'r'ng'r'll	b	73	42	0
Moree ..	b	82	49	0
Moruya ..	b	68	48	0
Moss Vale	b	64	48	0
Mt. Hope	b	82	52	0
M. Vict'ria	b	63	43	0
Mudgee ..	c	79	38	0
M'rr'mb'h	b	73	37	0
M'rr'r'ndi	b	66	49	0
Mus'lbr'k	b	73	35	0
Narrabri	b	74	44	0
Newcastle	b	68	52	0
Orange ..	b	61	38	0
Picton ..	b	71	42	0
P. M'q'rie	b	70	45	0·05
P. St'ph'n	b	68	46	0
Q'nbeyan	n	67	36	0
Quirindi	b	78	50	0
Singleton	b	71	50	0
SYDNEY .	b	64	52	0
Taralga ..	b	69	34	0
Taree	b	76	48	0
T'nt'rfield	b	69	45	0
Wagga ..	b	76	33	0
Walcha ..	b	64	35	0
Walgett	b	78	52	0
Warialda	–	–	–	–
Warrah ..	b	75	38	0
W'ntw'rth	b	74	45	0
W'll'ng'ng	c	72	51	0
Young ..	b	78	48	0

SYDNEY OBSERVATORY.

LATITUDE 33° 51' 41" S. LONGITUDE 10h. 4m. 50·21s. E.

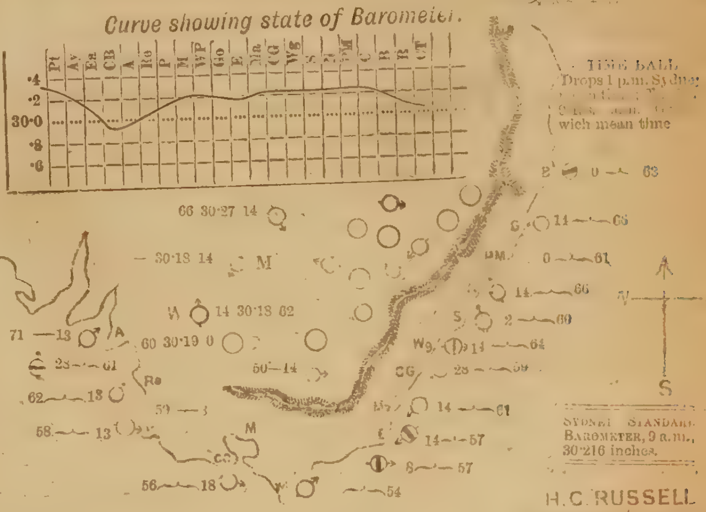
MAGNETIC VARIATION, 9° 35' 37" E.

Average Annual Rainfall for 28 years.................. 49·489

Average for 29 years from Jan. 1 to Aug. 31 1887 .. 38·105

Total Rainfall from Jan. 1, to Sep. 30 1887 ...... 47·950

Barometers corrected to 32° Fah. and Mean Sea Level



Smooth sea.
Heavy sea.
Very heavy sea

TIME BALL
Drops 1 p.m. Sydney
wich mean time

SYDNEY STANDARD
BAROMETER, 9 a.m.,
30·216 inches.

H. C. RUSSELL
GOVERNMENT ASTRONOMER.

NOTES EXPLANATORY OF MAP.

In the list of stations the column headed W.T. gives the state of the weather at 9 a.m., b standing for blue sky; c, detached clouds; d, drizzling rain; f, fog; g, gloomy; h, hazy; m, misty; n, frosty; o, overcast; p, passing showers; r, rain; s, snow; t, thunder; u, threatening. The next column, M'x gives the maximum temperature for previous 24 hours. M'n the corresponding minimum temperature; r'n, the rain for the previous 24 hours. The symbols used in the map are explained on the margin. At each coast station the wind symbol is placed like a vane pointing to the direction from which the wind is coming. A clear circle with it means fine weather; a circle with bar, cloudy weather; and a black spot, raining. Next to this symbol are placed figures denoting the number of miles the wind is moving per hour; next, a symbol showing the state of the sea; and, lastly, figures denoting the shade temperature at 9 a.m. The barometer curve shows the state of barometers round the coast from Perth to Cooktown:—Pt, Perth; Ay, Albany; Ea, Eucla; CB, Cape Borda; A, Adelaide; Re, Robe; P, Portland; M, Melbourne; WP, Wilson's Promontory; Go, Gabo; E, Eden; Ma, Moruya; CG Jervis Bay; Wg, Wollongong; S, Sydney; N, Newcastle; PM, Port Macquarie; C, Clarence River; B, Brisbane; R, Rockhampton; Ct, Cooktown. Inland the state of barometer is given in figures at Albury, Deniliquin, Wentworth, Menindie, Bourke, and Alice Springs. The barometer curve enables one at a glance to trace the depressions, beginning with Western Australia, and passing along eastwards; northerly winds preceding them, and southerly following.

The rainfall on Sundays or holidays, when this map is not published, is in all cases included in the quantities shown by the next following map.

9 A.M. OBSERVATIONS.

Western Australia.—Fine and warm in northern parts; cloudy and unsettled in south, fresh to strong W.E. to S.E. winds, smooth to moderate sea, but rather rough off Gascoigne River. Rainfall: Esperance Bay 0·40, Albany 0·23, and Perth 0·01 inch. Extremes of barometers and temperature: Perth, 30·29; Cossack, 30·06 and 86°; Albany, 56°.

South Australia.—Generally fine and warm, with scattered clouds, light to fresh N. to E. winds, smooth to moderate sea. At the head of the Australian Bight the weather is cloudy and gloomy, with fresh westerly winds and rough sea. In the Northern Territory fine, hot weather, with rather strong northerly winds, prevail. Extremes of barometers and temperature: Robe, 30·02; Streaky Bay, 29·86; Port Darwin, 84°; and Cape Northumberland, 53°.

Victoria.—Generally fine, with scattered clouds; light N. to E. winds; smooth sea; foggy and misty in the Straits. Extremes of barometers and temperature: Cape Schanck, 30·20; Hamilton, 30·09; Horsham, 59°, and Omeo, 50°.

Tasmania.—Generally fine, but more or less cloudy; light variable winds; smooth sea. Extremes of barometers and temperature: Low Heads, 30·23; Circular Heads, 30·18 and 56°; Southport, 51°.

New Zealand.—Passing showers in south; gloomy in north; fine but unsettled elsewhere; strong N.W. to S.W. winds. Barometers: In north, 29·90 to 29·70; over centre, 29·50; in south, 29·40.

New South Wales.—Generally fine, clear, warm, and pleasant weather, except in south coast districts, where more or less cloudy and unsettled weather prevails. Winds are generally very light, variable, or calm; but the prevailing direction is easterly. The sea is generally smooth. During the past 24 hours light rains fell at a few scattered places on the coast. Extremes of barometers and temperature: Walgett, 30·27; Albury, 30·16; Bourke, 66°; and Cooma, 44°. For further particulars see map.

Queensland.—Generally fine, except in south coast districts, where the conditions are gloomy; light N.E. to S.E. winds and calms; smooth to moderate sea, but rather rough off Townsville. Heavy thunderstorms, with rain occurred yesterday around Wide Bay and in the Maranoa district.

3 P.M. OBSERVATIONS.

Victoria.—Portland, E.S.E., 23, fine, smooth sea, temperature 61°; Cape Otway, E., 18, fine, smooth sea, temperature 61°; Melbourne, S., 13, fine, temperature 55°; Cape Schanck, E., 13, fine but cloudy, smooth sea, temperature 56°; Wilson's Promontory, N.E., 18, fine but cloudy, smooth sea, temperature 58°; Lakes Entrance, E., 23, fine but cloudy, temperature 62°.

South Australia.—Adelaide, N.N.E., 13, cloudy and gloomy, temperature 79°.

New South Wales.—Menindie, N.W., 14, fine and warm, temperature 72°; Wentworth, N.W., 14, fine, temperature 65°; Deniliquin, calm, fine, temperature 72°; Eden, E.S.E., 14, fine but cloudy, smooth sea, temperature 60°; Moruya, S.E., 14, fine, smooth sea, temperature 62°; Cape St. George, S., 14, fine, sea smooth, temperature 66°; Sydney, E., 10, fine with thick haze, smooth sea, temperature 65°; Newcastle, S.E., 14, fine, smooth sea, temperature 63°; Port Macquarie, E., 14, fine, smooth sea, temperature 72°; Clarence River, N.E., 14, fine, smooth sea, temperature 69°; Walgett, S.E., 14, cloudy, like rain and storm, temperature 74°; Dubbo, W., 14, fine, temperature 67°; Goulburn, calm, fine.

Queensland.—Townsville, S.E., 23, fine, smooth sea, temperature 78°; Mackay, E., 28, fine; Thargomindah, N.E., fine; Bourketown, N.E., strong, fine and hazy; Rockhampton, E., 13, fine, temperature 74°; Roma, E., 8, fine, temperature 72°; Brisbane, N.E., 13, cloudy, temperature 72°; Blackall, calm, fine, and warm; Boulia, N.W., 18, fine and warm.

HEIGHT OF RIVERS ABOVE SUMMER LEVEL.

Macintyre: At Mungindi, falling, 6ft. Barwon: At Mogil Mogil, falling, 8ft.; at Walgett, falling, 28ft. Namoi: At Walgett, falling, 18ft. Culgoa, at Goodoga, low. Darling: At Brewarrina, stationary, 21ft. 3in.; at Bourke, falling, 28ft. 11in.; at Louth, rising, 28ft. 6in.; at Tilpa, falling, 33ft. 11in.; at Wilcannia, stationary, 30ft. 6in.; at Pooncarie, 22ft. 5in. Murrumbidgee: At Gundagai, rising, 6ft.; at Wagga, 11ft. 9in.; at Hay, falling, 17ft. 3in. Murray: At Albury, 10ft. 8in.

ASTRONOMICAL MEMORANDA FOR OCTOBER 1.

Sun rises at 5.39, sets at 6.1; Moon rises at 5.25 p.m.; sets at 5.6 a.m.; Mercury, 6.18 a.m., 7.8 p.m.; Venus, 4.27 a.m., 4.53 p.m.; Mars, 3.41 a.m., 2.19 p.m.; Jupiter, 7.11 a.m., 8.27 p.m.; Saturn, 2.40 a.m., 12.54 p.m. Full moon, October 2; new moon, October 17.

High water at Fort Denison: 7.39 a.m., 7.57 p.m.

H. A. LENEHAN,
Acting Government Astronomer.

METEOROLOGICAL REPORTS AND MAP FOR OCTOBER 1, 1887.

Stations.	W.T.	Mx	Mn	Rn.
Albury ..	o	73	46	0
Armidale	b	68	42	0
Balranald	b	91	49	0
Bathurst	c	73	37	0
Bendem'r	u	69	40	0
Bodalla ..	b	70	46	0
Bourke ..	b	84	59	0
Bungarra	g	—	34	0
C'md'n H.	b	72	50	0
C. St. Geo.	b	69	54	0
Carcoar ..	b	62	36	0
Casino ..	b	84	45	0
Cassilis ..	o	67	45	0
Clarence .	b	78	56	0
C'nd'b'lin	b	86	53	0
Cooma ..	f	76	36	0
Coonab'n.	b	78	40	0·22
Cowra ..	b	81	45	0
Cudg'llico	b	80	51	0
Deniliq'n.	b	85	48	0
Dubbo ..	b	81	43	0
Eden	b	66	50	0
Euston ..	c	90	59	0
Forbes ..	b	—	48	0
G'bo Isl'nd	c	65	55	0
Glen Inn's	b	70	46	0
Goulburn	b	73	42	0
Grafton ..	b	78	54	0
Gulgong .	b	70	34	0
Gunned'h	c	80	50	0
Hay	b	84	57	0
Inverell ..	c	72	52	0
Kiandra ..	n	68	21	0
Lismore .	b	79	48	0
Maitland .	b	75	49	0
M'n'ng H.	b	78	48	0
Marsdens.	b	80	51	0
Menindie.	b	82	61	0
Molong ..	b	69	36	0
M'r'ng'r'll	b	78	49	0
Moree ..	b	83	53	0
Moruya ..	b	65	48	0
Moss Vale	b	66	48	0
Mt. Hope	b	80	56	0
M. Vict'ria	b	68	43	0
Mudgee ..	b	80	39	0
M'rr'mb'h	b	76	45	0
M'rr'r'ndi	b	68	48	0
Mus'lbr'k	b	75	42	0
Narrabri	h	81	51	0
Newcastle	c	71	56	0
Orange ..	b	64	41	0
Picton ..	c	74	44	0
P. M'q'rie	b	71	49	0
P. St'ph'n	f	61	46	0
Q'nbeyan	g	66	35	0
Quirindi	b	79	50	0
Singleton	b	70	51	0
SYDNEY ..	b	68	57	0
Taralga ..	b	72	41	0
Taree	b	80	45	0
T'nt'rfield	b	75	47	0
Wagga ..	g	80	42	0
Walcha ..	b	67	32	0
Walgett	b	79	56	–
Warialda	b	79	48	0
Warrah ..	b	79	46	0
W'ntw'rth	r	59	52	0·03
W'll'ng'ng	b	74	55	0
Young ..	b	88	46	0

SYDNEY OBSERVATORY.

LATITUDE 33° 51' 41" S. LONGITUDE 10h. 4m. 50·81s. E.

MAGNETIC VARIATION, 9° 35' 37" E.

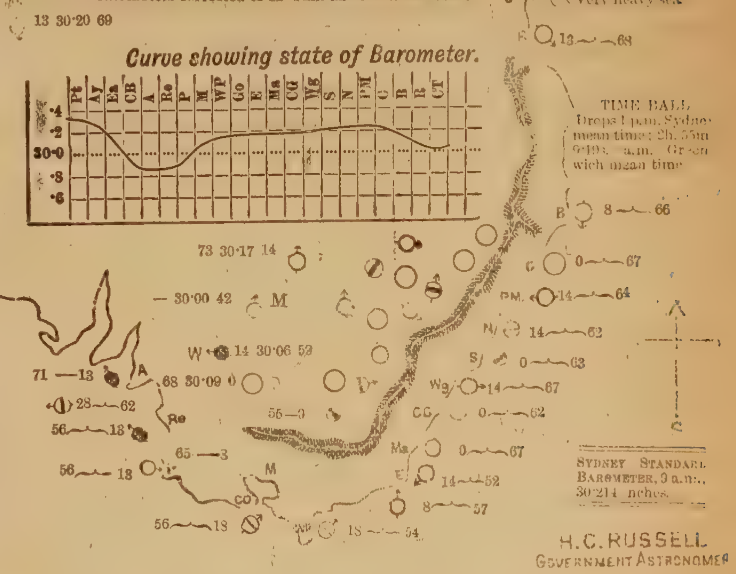
Average Annual Rainfall for 29 years .. .. 49·187

Average for 29 years from Jan. 1 to Sep. 30 1887.. .. 41·210

Total Rainfall from Jan. 1, to Oct. 1 1887 .. .. 47·984

Barometers corrected to 32° Fah. and Mean Sea Level

Calm. wind N. — Fresh wind E.
T. storm. — Gale, wind S. — Gale, wind W.
If it is CALM, the symbol used without the arrow
Smooth sea.
Heavy sea.
Very heavy sea.



NOTES EXPLANATORY OF MAP.

In the list of stations the column headed W.T. gives the state of the weather at 9 a.m., b standing for blue sky; c, detached clouds; d, drizzling rain; f, fog; g, gloomy; h, hazy; m, misty; n, frosty; o, overcast; p, passing showers; r, rain; s, snow; t, thunder; u, threatening. The next column, M'x gives the maximum temperature for previous 24 hours. M'n the corresponding minimum temperature; r'n, the rain for the previous 24 hours. The symbols used in the map are explained on the margin. At each coast station the wind symbol is placed like a vane pointing to the direction from which the wind is coming. A clear circle with it means fine weather; a circle with bar, cloudy weather; and a black spot, raining. Next to this symbol are placed figures denoting the number of miles the wind is moving per hour; next, a symbol showing the state of the sea; and, lastly, figures denoting the shade temperature at 9 a.m. The barometer curve shows the state of barometers round the coast from Perth to Cooktown:—Pt, Perth; Ay, Albany; Ea, Eucla; CB, Cape Borda; A, Adelaide; Re, Robe; P, Portland; M, Melbourne; WP, Wilson's Promontory; Go, Gabo; E, Eden; Ma, Moruya; CG Jervis Bay; Wg, Wollongong; S, Sydney; N, Newcastle; PM, Port Macquarie; C, Clarence River; B, Brisbane; R, Rockhampton; Ct, Cooktown. Inland the state of barometer is given in figures at Albury, Deniliquin, Wentworth, Menindie, Bourke, and Alice Springs. The barometer curve enables one at a glance to trace the depressions, beginning with Western Australia, and passing along eastwards; northerly winds preceding them, and southerly following.

The rainfall on Sundays or holidays, when this map is not published, is in all cases included in the quantities shown by the next following map.

9 A.M. OBSERVATIONS.

Western Australia.—Generally fine, with showers in S.E. parts; light S. to E. winds; smooth to moderate sea, but rough off the N.E. Cape. Rainfall: Esperance Bay, 0·07. Extremes of barometers and temperature: Perth, 30·34; Cossack, 30·08; Ashburton, 81°; and Albany, 56°.

South Australia.—Generally cloudy and threatening south of Beltana; showery along the coast; light N.W. to W. winds; smooth sea; light rains have fallen generally south of Beltana. Extremes of barometers and temperature: Alice Springs, 30·20; Robe, 29·87 and 56°; Port Darwin, 85°.

Victoria.—Generally more or less cloudy, and in parts threatening; light to fresh E. to N. winds; smooth sea. Extremes of barometers and temperature: Wilson's Promontory, 30·12; Hamilton, 29·91; Ballarat, 69°, and Omeo, 52°.

Tasmania.—Generally fine, with light variable winds and calms, and moderate to rather rough sea. Extremes of barometers and temperature: Southport, 30·25; Circular Heads, 30·13; Hobart, 55°; and Low Heads, 50°.

New Zealand.—Showery in the North Island, fine in South, snow on the hills in Cook Strait. Barometers: In north, 29·70; over centre, 29·50; in south, 29·90.

New South Wales.—Generally fine, with scattered clouds, but more or less cloudy and like a change on the Southern and Western borders. It is stormy at Menindie, and raining at Wentworth. Winds are in east parts light, variable, and calm; in west, fresh to strong north and easterly. The sea is smooth. During the past 24 hours light rain fell at Coonabarabran and Wentworth. Extremes of barometers and temperature: Forbes, 30·26; Albury, 30·00; Bourke, 73°; and Cooma, 50°. (For further particulars see map.)

Queensland.—In south parts fine, with N.E. winds inland, and S.E. winds on the coast. In north more or less cloudy, and at places showery, smooth to moderate sea. Extremes of barometers and temperature: Brisbane, 30·25 and 66°; Thursday Island, 29·96 and 81°.

3 P.M. OBSERVATIONS.

Victoria.—Portland, N., 23, cloudy, smooth sea, temperature 67°; Cape Otway, E.N.E., 28, overcast, like rain, slight sea, temperature 56°; Wilson's Promontory, N.E., 23, overcast and squally with misty rain, slight sea, temperature 54°; Lakes Entrance, S.E., 13, overcast and misty, temperature 62°.

New South Wales.—Menindie, N., 28, cloudy, like change, followed by a dust storm, temperature 72°; Wentworth, S., 14, cloudy and stormy, temperature 58°; Deniliquin, N.N.E., 28, storm threatening, temperature 76°; Eden, N.E., 14, fine, smooth sea, temperature 63°; Moruya, N.E., 42, cloudy, smooth sea, temperature 68°; Cape St. George, N.E., 42, fine, sea smooth, temperature 64°; Sydney, E.N.E., fine, smooth sea, temperature 64°; Newcastle, N.E., 28, fine, smooth sea, temperature 65°; Port Macquarie, N.E., 42, fine, smooth sea, temperature 74°; Walgett, N.E., fine, temperature 77°; Dubbo, N.W., 28, fine, like thunderstorm, temperature 70°.

Queensland.—Townsville, S.E., 13, fine, smooth sea, temperature 76°; Mackay, E., 18, fine and cool; Hughenden, S.E., 13, fine and hot; Boulia, N.W., 18, fine and hot; Burketown, N.E., fine and warm.

HEIGHT OF RIVERS ABOVE SUMMER LEVEL.

Macintyre; At Mungindi, falling, 5ft. 6in. Barwon: At Mogil Mogil, falling, 7ft. 6in.; at Walgett, falling, 27ft. 4in. Namoi: At Walgett, falling, 16ft. Culgoa, at Goodooga, low. Darling: At Brewarrina, falling, 21ft.; at Bourke, stationary, 29ft. 4in.; at Louth, stationary, 28ft. 6in.; at Tilpa, rising, 34ft.; at Wilcannia, rising, 30ft. 8in.; at Menindie, 24ft. 11in.; at Wentworth, 21ft. 7in. Murrumbidgee: At Gundagai, stationary, 6ft.; at Wagga, 11ft. 3in.; at Hay, 17ft. 5in.; at Balranald, 16ft. Murray: At Albury, 10ft.; at Euston, 22ft. 4in.

ASTRONOMICAL MEMORANDA FOR OCTOBER 3.

Sun rises at 5.37, sets at 6.2; Moon rises at 7.12 p.m., sets at 6.8 a.m.; Mercury, 6.18 a.m., 7.14 p.m.; Venus, 4.19 a.m., 4.41 p.m.; Mars, 3.37 a.m., 2.17 p.m.; Jupiter, 7.4 a.m., 8.21 p.m.; Saturn, 2.32 a.m., 12.46 p.m. Full moon, October 2; new moon, October 17.

High water at Fort Denison: 8.49 a.m., 9.6 p.m.

H. A. LENEHAN.
Acting Government Astronomer.

METEOROLOGICAL REPORTS AND MAP FOR OCTOBER 3, 1887.

SYDNEY OBSERVATORY

LATITUDE 33° 51' 41" S. LONGITUDE 10h. 4m. 50·83s. E.

MAGNETIC VARIATION, 9° 35' 37" E.

Average Annual Rainfall for 28 years .... 49·489
Average for 29 years from Jan. 1 to Sep. 30 1887... .. 41·210
Total Rainfall from Jan. 1, to Oct. 3 1887 .... 48·222

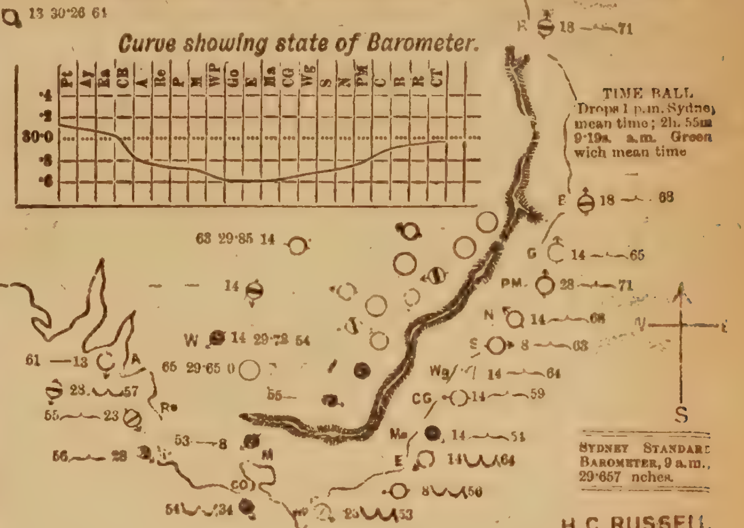
Barometers corrected to 32° Fah. and Mean Sea Level

Fine, wind N. Cloudy, wind E. T. storm, wind S. Rain, wind W.
If it is CALM, the symbol used without the arrow
Smooth sea.
Heavy sea.
Very heavy sea.

Stations.	W.T.	Mx	Mn	Rn.
Albury ..	r	79	48	1·60
Armidale	b	71	46	0
Balranald	b	89	46	0·44
Bathurst	b	72	44	0·13
Bendem'r	g	59	43	0
Bodalla ..	g	66	44	0·21
Bourke ..	b	82	51	0
Bungarra	g	—	54	0·15
C'md'n H.	b	75	54	0
C.St. Geo.	b	66	51	0
Carcoar ..	b	65	36	0·15
Casino ..	b	86	47	0·70
Cassilis ..	–	—	—	–
Clarence .	b	76	63	1·05
C'nd'b'lin	b	88	51	0·19
Cooma ..	c	71	40	0·65
Coonab'n.	b	78	40	0
Cowra ..	b	76	52	0·27
Cudg'llico	b	81	50	0·24
Deniliq'n.	b	85	46	0
Dubbo ..	b	73	44	0·04
Eden	b	64	52	0·80
Euston ..	b	68	47	0·53
Forbes ..	b	—	47	0·41
G'bo Isl'nd	c	65	54	0·76
Glen Inn's	g	72	43	0·90

13—60 EUCLA

Stations.	W.T.	Mx	Mn	Rn.
Goulburn	b	72	43	0·15
Grafton ..	b	83	52	0·60
Gulgong .	b	74	38	0
Gunned'h	b	83	49	0
Hay	g	84	46	0·79
Inverell .	b	74	56	0
Kiandra .	b	69	30	1·59
Lismore .	b	85	61	0·74
Maitland .	b	82	60	0
M'n'ng H.	b	73	60	0
Marsdens.	b	78	52	0·24
Menindie.	g	63	54	0·14
Molong ..	b	71	42	0·29
M'r'ng'r'll	b	73	48	0·71
Moree ..	b	83	51	0
Moruya ..	r	68	50	0·31
Moss Vale	b	69	47	0·02
Mt. Hope	–	—	—	–
M. Vict'ria	b	68	43	0·21
Mudgee ..	b	81	40	0
M'rr'mb'h	b	81	45	0·28
M'rr'r'ndi	b	72	51	0
Mus'lbr'k	b	81	45	0
Narrabri	b	83	48	0
Newcastle	b	71	57	0·01
Orange ..	b	65	45	0·76
Picton ..	b	75	45	0·02
P. M'q'rie	b	72	59	0
P. St'ph'n	b	75	52	0
Q'nbeyan	f	66	35	0·65
Quirindi	b	79	46	0
Singleton	b	79	54	0
SYDNEY ..	b	68	55	0·24
Taralga ..	b	76	40	0
Taree	b	79	45	0·97
T'nt'rfield	b	80	58	0·01
Wagga ..	r	83	42	0·59
Walcha ..	b	67	38	0
Walgett	b	78	52	0
Warialda	b	82	52	0·20
Warrah ..	–	—	—	–
W'ntw'rth	r	66	55	0·24
W'il'ng'ng	c	72	49	0
Young ..	b	80	42	0·42



TIME BALL.
Drops 1 p.m. Sydney mean time; 2h. 55m 9·19s. a.m. Greenwich mean time

SYDNEY STANDARD BAROMETER, 9 a.m., 29·657 inches.

H. C. RUSSELL
GOVERNMENT ASTRONOMER

NOTES EXPLANATORY OF MAP.

In the list of stations the column headed W.T. gives the state of the weather at 9 a.m., b standing for blue sky; c, detached clouds; d, drizzling rain; f, fog; g, gloomy; h, hazy; m, misty; n, frosty; o, overcast; p, passing showers; r, rain; s, snow; t, thunder; u, threatening. The next column, Mx gives the maximum temperature for previous 24 hours. M'n the corresponding minimum temperature; R'n, the rain for the previous 24 hours. The symbols used in the map are explained on the margin. At each coast station the wind symbol is placed like a vane pointing to the direction from which the wind is coming. A clear circle with it means fine weather; a circle with bar, cloudy weather; and a black spot, raining. Next to this symbol are placed figures denoting the number of miles the wind is moving per hour; next, a symbol showing the state of the sea; and, lastly, figures denoting the shade temperature at 9 a.m. The barometer curve shows the state of barometers round the coast from Perth to Cooktown:- Pt, Perth; Ay, Albany; Ea, Eucla; CB, Cape Borda; A, Adelaide; Re, Robe; P, Portland; M, Melbourne; W P, Wilson's Promontory; Go, Gabo; E, Eden; Ma, Moruya; C G Jervis Bay; Wg, Wollongong; S, Sydney; N, Newcastle; P M, Port Macquarie; C, Clarence River; B, Brisbane; R, Rockhampton; Ct, Cooktown. Inland the state of barometer is given in figures at Albury, Deniliquin, Wentworth Menindie, Bourke, and Alice Springs. The barometer curve enables one at a glance to trace the depressions, beginning with Western Australia, and passing along eastwards; northerly winds preceding them, and southerly following.

The rainfall on Sundays or holidays, when this map is not published, is in all cases included in the quantities shown by the next following map.

9 A.M. OBSERVATIONS.

Western Australia.—More or less cloudy and unsettled; fresh to rather strong S.E. to S.W. winds, smooth sea. Carnarvon reports squalls from S.E., and rough sea. Extremes of barometers and temperature: Geraldton, 30·21; Esperance Bay, 29·91; Ashburton, 85°; and Perth, 60°.

South Australia.—Showery, light rain, or threatening rain, south of Hergott; fresh S.W. to S.E. winds, moderate to rough sea; heavy rains have fallen south of Farina, generally from 0·25 to 1·50 inch, but several stations had from 2 to 4 inches. In the Northern Territory fine weather continues. Extremes of barometers and temperature: Alice Springs, 30·26; Robe, 29·71 and 55°; Port Darwin, 84°.

Victoria.—Showery on the coast; cloudy inland; squally N.E. to S.E. winds; moderate to rough sea. Heavy rains have fallen generally; heaviest in west parts. Extremes of barometers and temperature: Ballarat, 29·74; Lakes Entrance, 29·64; Horsham, 60°; and Omeo, 51°.

Tasmania.—Cloudy and raining generally; light to fresh S. to S.E. winds; moderate to rough sea. Heavy rains have fallen; Falmouth reports 1·74 inch. Extremes of barometers and temperature: Southport, 29·92; Circular Heads, 29·75 and 55°; Hobart, 49°.

New Zealand.—Showery in north; fine to southward; fresh to strong S.E. to S.W. winds. On Saturday Bluff had hailstorms and heavy showers, with strong S.E. winds. It was squally, with rain, in Cook Strait yesterday. Barometers: In north, 29·70; over centre, 29·60; in south, 30·00.

New South Wales.—Generally cloudy in south and south-west parts; fine, with scattered clouds, over the remainder of the colony. Winds are generally light to fresh northerly and westerly; at places variable winds and calms prevail. The sea smooth to moderate, but rough on the south coast. During the past 48 hours rains fell generally over the southern half of the colony, and in N.E. parts. Several scattered places report over an inch rain fallen. Extra Station: Lawrence, rain commenced last night, 0·97in. recorded. Extremes of barometers and temperature: Walgett, 29·85; Gabo, 29·59; Port Macquarie, 71°; and Cooma, 47°. For further particulars see map.

Queensland.—In south, dull, with N. to N.W. winds; in north, fine, but more or less cloudy, with light variable winds; smooth to moderate sea. During the night heavy thunderstorm, with heavy rain, occurred on the Darling Downs and in the Moreton district. Extremes of barometers and temperature: Thursday Island, 29·97 and 81°; Roma, 29·86 and 65°.

3 P.M. OBSERVATIONS.

Adelaide.—S.S.W., 18, cloudy, temperature 59°; Omeo, N., 8, fine but cloudy, temperature 59°.

Victoria.—Portland, S.E., 28, fine but cloudy, sea smooth, temperature 59°; Cape Otway, S., 23, squally and misty, sea rough, temperature 53°; Melbourne, S.S.W., 8, showery, temperature 55°; Cape Schanck, S.E., 8, foggy, sea smooth, temperature 57°; Wilson's Promontory, calm, light rain, sea rough, temperature 52°; Lakes Entrance, E., 18, cloudy, temperature 64°.

New South Wales.—Menindie, W., cloudy and threatening, temperature 64°; Wentworth, S., 23, cloudy, temperature 53°; Deniliquin, calm, showery, temperature 65°; Eden, E., 14, fine, sea smooth, temperature 64°; Moruya, N.E., 28, threatening, sea moderate, temperature 64°; Cape St. George, E.N.E., 28, fine, sea moderate, temperature 66°; Sydney, E.N.E., thunderstorms, sea smooth; Newcastle, W., 28, fine, sea smooth, temperature 75°; Port Macquarie, N.N.E., 42, unsettled, sea moderate, temperature 75°; Walgett, S.W., dull, temperature 68°; Dubbo, N.W., 14, fine, temperature 65°; Goulburn, N.W., 14, fine, temperature 62°.

Queensland.—Townsville, N.E., 28, hazy, sea moderate, temperature 77°; Mackay, S.E., cloudy; Blackall, N.W., fine; Bonlia, S.W., 23, fine; Rockhampton, N.N.W., 23, threatening, temperature 79°; Roma, W., 13, fine, temperature 74°; Cape Moreton, N., 28, cloudy and squally, temperature 70°; Brisbane, W.N.W., 23, showery, temperature 64°; Thargomindah, N.W., cloudy; Thursday Island, S.E., cloudy, temperature 82°.

HEIGHT OF RIVERS ABOVE SUMMER LEVEL.

Macintyre: At Mungindi, 5ft. Barwon: At Mogil Mogil, 6ft.; at Walgett, 23ft. Namoi: At Walgett, 11 feet. Culgoa: At Goodooga, low. Darling: At Brewarrina, 20ft.; at Bourke, 29ft. 5in.; at Louth, 28ft. 3in.; at Tilpa, 34ft.; at Wilcannia, 30ft. 6in.; at Menindie, 25ft.; at Pooncarie, 22ft. 5in.; at Wentworth, 21ft. 6in. Murrumbidgee: At Gundagai, 5ft. 10in.; at Wagga, 10ft. 5in.; at Hay, 14ft. 7in.; at Balranald, 16ft. Murray: At Albury, 10ft. 2in.; at Euston, 22ft. 4in.

ASTRONOMICAL MEMORANDA FOR OCTOBER 4.

Sun rises at 5.35, sets at 6.3; Moon, 8.4 p.m., 6.40 a.m.; Mercury, 6.17 a.m., 7.18 p.m.; Venus, 4.15 a.m., 4.35 p.m.; Mars, 3.35 a.m., 2.16 p.m.; Jupiter, 7.1 a.m., 8.18 p.m.; Saturn, 2.29 a.m., 12.43 p.m. Full moon, October 2; new moon, October 17.

High water at Fort Denison October 4: 9.22 a.m.; 9.38 p.m.

H. A. LENEHAN,
Acting Government Astronomer.

METEOROLOGICAL REPORTS AND MAP FOR OCTOBER 4, 1887.

Stations.	wt	Mx	m	Rn.
Albury ..	b	61	46	0·10
Armidale	g	66	47	0
Balranald	g	81	41	0
Bathurst	c	61	44	0·21
Bendem'r	c	65	48	0·04
Bodalla ..	b	68	43	0·34
Bourke ..	b	70	51	0·24
Bungarra	c	—	52	0
C'md'n H.	b	76	57	0
C. St. Geo.	b	70	46	0·35
Carcoar ..	g	62	36	0·42
Casino ..	b	83	48	0
Cassilis ..	u	68	51	0·06
Clarence .	b	78	54	0
C'nd'b'lin	c	88	53	0·19
Cooma ..	c	61	33	0·03
Coonab'n.	g	69	45	0·02
Cowra ..	b	73	51	0·35
Cudg'llico	r	72	46	0·48
Deniliq'n.	b	68	44	0·07
Dubbo ..	b	70	49	0·02
Eden	b	63	55	0
Euston ..	b	72	48	0·16
Forbes ..	b	—	46	0
G'bo Isl'nd	c	65	51	0
Glen Inn's	g	64	43	0
EUCLA 13—60				
Goulburn	g	65	39	0·06
Grafton ..	b	83	58	0
Gulgong .	g	70	38	0·47
Gunned'h	o	83	48	0
Hay	b	71	48	0·02
Inverell ..	o	71	46	0
Kiandra ..	c	57	30	0·20
Lismore .	b	75	54	0·01
Maitland .	b	79	58	0
M'n'ng H.	b	78	41	0
Marsdens.	b	66	53	0
Menindie.	g	69	54	0·02
Molong ..	r	51	45	0·36
M'r'ng'r'll	b	64	49	0·40
Moree ..	b	78	48	0·03
Moruya ..	b	70	46	0
Moss Vale	b	65	44	0·09
Mt. Hope	b	64	51	0·18
M. Vict'ria	c	61	40	0·08
Mudgee ..	b	76	43	0·29
M'rr'mb'h	c	66	54	0·23
M'rr'r'ndi	r	66	51	0·01
Mus'lbr'k	c	73	48	0
Narrabri	g	75	50	0·14
Newcastle	b	76	54	0
Orange ..	r	59	45	0·39
Picton ..	b	72	40	0
P. M'q'rie	b	76	48	0
P. St'ph'n	b	71	51	0
Q'nbeyan	c	69	29	0·65
Quirindi	o	68	53	0
Singleton	b	70	52	0·10
Sydney ..	g	67	52	0·10
Taralga ..	g	63	40	0·18
Taree	b	81	55	0·01
T'nt'rfield	g	77	43	0
Wagga ..	b	66	38	0·30
Walcha ..	r	63	41	0·06
Walgett	b	73	51	0·12
Warialda	c	75	46	0·12
Warrah ..	r	68	48	0
W'ntw'rth	c	69	40	0·20
W'll'ng'ng	-	—	—	—
Young ..	g	66	44	0·38

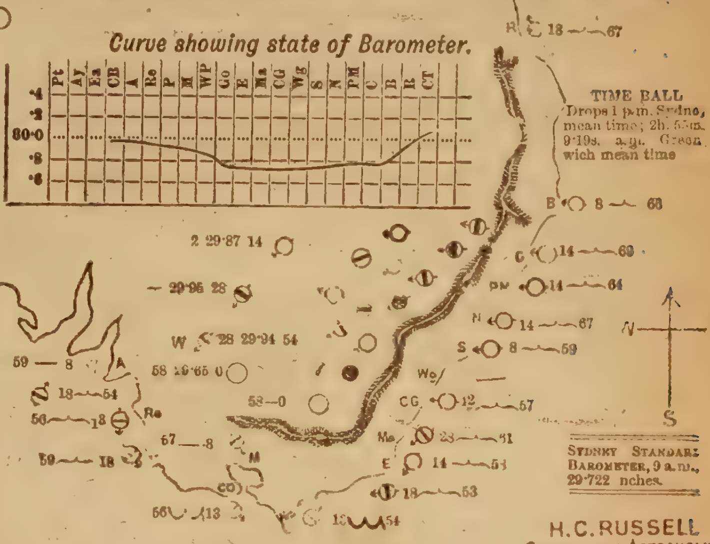
SYDNEY OBSERVATORY.

Latitude 33° 51′ 41″ S. Longitude 10h. 4m. 50·81s. E.
Magnetic Variation, 9° 35′ 51″ E.

Average Annual Rainfall for 28 years.................49·489
Average for 29 years from Jan. 1 to Sep. 30 1887.. 41·210
Total Rainfall from Jan. 1, to Oct. 4 1887 .... 48·322

Barometers corrected to 32° Fah. and Mean Sea Level

Fine, wind N. Cloudy wind E. T. storm, wind S. Rain, wind W. If it is calm, the symbol used without the arrow. Smooth sea. Heavy sea. Very heavy sea.



NOTES EXPLANATORY OF MAP.

In the list of stations the column headed W.T. gives the state of the weather at 9 a.m., b standing for blue sky; c, detached clouds; d, drizzling rain; f, fog; g, gloomy; h, hazy; m, misty; n, frosty; o, overcast; p, passing showers; r, rain; s, snow; t, thunder; u, threatening. The next column, Mx gives the maximum temperature for previous 24 hours. M'n the corresponding minimum temperature; r'n, the rain for the previous 24 hours. The symbols used in the map are explained on the margin. At each coast station the wind symbol is placed like a vane pointing to the direction from which the wind is coming. A clear circle with it means fine weather; a circle with bar, cloudy weather; and a black spot, raining. Next to this symbol are placed figures denoting the number of miles the wind is moving per hour; next, a symbol showing the state of the sea; and, lastly, figures denoting the shade temperature at 9 a.m. The barometer curve shows the state of barometers round the coast from Perth to Cooktown: Pt, Perth; Ay, Albany; Ea, Eucla; CB, Cape Borda; A, Adelaide; Re, Robe; P, Portland; M, Melbourne; W P, Wilson's Promontory; Go, Gabo; E, Eden; Ma, Moruya; C G Jervis Bay; Wg, Wollongong; S, Sydney; N, Newcastle; P M, Port Macquarie; C, Clarence River; B, Brisbane; R, Rockhampton; Ct, Cooktown. Inland the state of barometer is given in figures at Albury, Deniliquin, Wentworth Menindie, Bourke, and Alice Springs. The barometer curve enables one at a glance to trace the depressions, beginning with Western Australia, and passing along eastwards; northerly winds preceding them, and southerly following.

The rainfall on Sundays or holidays, when this map is not published, is in all cases included in the quantities shown by the next following map.

9 A.M. OBSERVATIONS.

South Australia.—Generally fine, with scattered clouds; gloomy in south-east parts; light south to south-east winds, smooth sea. Rainfall: Partially from 0·01 to 0·07in. In Northern Territory fine, with variable winds and calms. Extremes of barometers and temperature: Alice Springs, 30·04; Robe, 29·87; Cape Northumberland, 52°; and Daly Waters, 85°.

Victoria.—More or less cloudy generally, in parts threatening; at places on the coast thick, misty weather, with light variable, chiefly south-easterly winds, or calms; rough sea. Rainfall: Generally from 0·01 to 0·33 inches. Extremes of barometers and temperature: Echuca, 30·07; Horsham, 60°; Lakes Entrance, 29·80; and Omeo, 50°.

Tasmania.—Generally more or less cloudy; light easterly winds moderate to rough sea. Rainfall: From 0·12 to 0·52in. in N.E. parts. Extremes of barometers and temperature: Falmouth, 29·96 and 62°; Low Heads, 29·81 and 54°.

New Zealand.—Showery on north island; fine in extreme north and south parts; fresh S.E. winds prevail. Barometers: In north, 29·9; over the centre, from 29·7 to 29·9; in south, 30·1.

New South Wales.—Generally cloudy, dull, and unsettled; fine, with scattered clouds at places; raining on the Upper Lachlan and on the ranges west of the Manning and Hunter rivers. Winds are generally light to fresh from west to south. The sea smooth to moderate. During the past 24 hours light rain fell generally over the colony, except in extreme N.E. parts. Thunderstorms occurred at Sydney and on the south coast. Extremes of barometers and temperature: Deniliquin, 30·06; Cape St. George, 29·69; Clarence, 69°; Cooma, 45°. For further particulars see map.

Queensland.—Generally fine, with light variable winds or calms, and smooth sea. Heavy thunder and hailstorms occurred yesterday in the Wide Bay and Morton districts. Extremes of barometers and temperature: Cooktown, 30·02; Brisbane, 29·80; Thursday Island, 82°; and Cape Moreton, 62°.

3 P.M. OBSERVATIONS.

Victoria.—Portland, S.S.E., 18, overcast, sea smooth, temperature 57°; Cape Otway, S.E., 18, cloudy and misty, sea moderate, temperature 58°; Melbourne, S.S.W., 8, fine, temperature 61°; Omeo, W., 13, fine but cloudy, temperature 62°; Cape Schanck, S.E., 8, fine but cloudy, sea slight, temperature 59°; Wilson's Promontory, E., 18, overcast and misty, sea rather rough, temperature 54°; Lakes Entrance, W., 13, fine but cloudy, temperature 63°.

New South Wales.—Menindie, S.W., 14, overcast and dull, temperature 63°; Wentworth, W., 28, cloudy, temperature 57°; Deniliquin, calm, cloudy, temperature 68°; Eden, S.W., 14, fine, light east sea, temperature 64°; Moruya, S., 42, gloomy and threatening, sea moderate, temperature 61°; Cape St. George, S., 42, fine but cloudy, sea moderate, temperature 62°; Sydney, S., 6, passing thunderstorms, sea smooth, temperature 62°; Newcastle, S.W., 14, showery, sea smooth, temperature 62°; Port Macquarie, S., 14, overcast, thundering, and showery, sea smooth, temperature 70°; Clarence River, N.E., 14, fine, smooth sea, temperature 70°; Walgett, S.W., 14, fine, temperature 69°; Dubbo, W., 14, showery, temperature 62°; Goulburn, N.W., 14, fine, temperature 62°.

Queensland.—Cooktown, calm, fine and sultry, sea smooth, temperature 84°; Townsville, S.E., 13, hazy, temperature 79°; Mackay, S.E., fresh and fine; Hughenden, N.W., hot and gusty; Boulia, N.E., fine and clear; Rockhampton, W., 13, fine, temperature 80°; Roma, S.W., 8, fine, temperature 74°; Brisbane, W., 23, fine but cloudy, temperature 76°; Blackall, N.W., 13, clear and cool.

HEIGHT OF RIVERS ABOVE SUMMER LEVEL.

Macintyre: At Mungindi, 5ft. 6in., falling. Barwon: At Mogil Mogil, 5ft. 6in., falling; at Walgett, 22ft., falling. Namoi: At Walgett, 10ft., falling. Culgoa: At Goodooga, low. Darling: At Brewarrina, 19ft. 6in., falling; at Bourke, 29ft. 5in., stationary; at Louth, 28ft. 3in., stationary; at Tilpa 34ft., stationary; at Wilcannia, 30ft. 11in., rising; at Menindie, 25ft. 1in., rising; at Pooncarie, 22ft. 5in.; at Wentworth, 21ft. 5in. Murrumbidgee: At Gundagai, 5ft. 6in., falling; at Wagga, 11ft.; at Hay, 14ft., falling; at Balranald, 16ft. Murray: At Albury, 10ft. 4in.; at Euston, 22ft. 3in.

ASTRONOMICAL MEMORANDA FOR OCTOBER 5.

Sun rises at 5.33, sets at 6.4; Moon, 8.59 p.m., 7.12 a.m.; Mercury, 6.17 a.m., 7.21 p.m.; Venus, 4.11 a.m., 4.29 p.m.; Mars, 3.33 a.m., 2.15 p.m.; Jupiter, 6.57 a.m., 8.15 p.m.; Saturn, 2.25 a.m., 12.39 p.m. Full moon, October 2; new moon, October 17.

High water at Fort Denison October 5: 9.54 a.m.; 10.10 p.m.

H. A. LENEHAN,
Acting Government Astronomer.

METEOROLOGICAL REPORTS AND MAP FOR OCTOBER 4, 1887.

Stations.	W.T.	Mx	M'n	R'n
Albury ..	c	70	50	0
Armidale	b	57	39	0·20
Balranald	g	80	39	0
Bathurst	f	62	38	0·04
Bendem'r	b	58	40	0·31
Bodalla ..	u	67	52	0·09
Bourke ..	b	77	49	0
Bundarra	b	—	49	0·15
C'md'n H.	b	68	50	0
C. St. Geo.	r	65	53	0·04
Carcoar ..	b	59	31	0·03
Casino ..	b	80	46	0·14
Cassilis ..	b	61	43	0
Clarence ..	b	77	55	0
C'nd'b'lin	b	88	49	0
Cooma ..	c	67	44	0
Coonab'n.	g	69	36	0
Cowra ..	–	71	41	0·01
Cudg'llico	g	—	—	–
Deniliq'n.	g	78	46	0
Dubbo ..	r	57	37	0·13
Eden	b	64	54	0·25
Euston ..	b	70	43	0
Forbes ..	b	—	48	0
G'bo Isl'nd	c	59	53	0·17
Glen Inn's	b	61	37	0
Goulburn	g	69	39	0
Grafton ..	b	78	49	0
Gulgong .	b	64	41	0
Gunned'h	b	71	59	0
Hay	c	72	51	0
Inverell ..	c	68	40	0
Kiandra ..	g	57	29	0
Lismore .	b	80	52	0
Maitland .	b	76	47	0·13
M'n'ng H.	b	66	46	0·21
Marsdens.	b	70	49	0
Menindie.	b	66	52	0
Molong ..	b	63	35	0
M'r'ng'r'll	b	66	44	0
Moree ..	b	73	47	0
Moruya ..	r	65	54	0·05
Moss Vale	g	65	42	0·02
Mt. Hope	b	71	53	0
M. Vict'ria	b	59	38	0·04
Mudgee ..	b	70	34	0·10
M'rr'mb'h	b	64	42	0
M'rr'r'ndi	b	60	49	0·18
Mus'lbr'k	b	74	40	0
Narrabri	h	72	48	0
Newcastle	b	70	49	0
Orange ..	b	60	38	0
Picton ..	b	70	40	0·17
P. M'q'rie	b	70	47	0
P. St'ph'n	b	63	46	0
Q'nbeyan	–	—	—	–
Quirindi	b	69	47	0
Singleton	b	65	49	0
Sydney ..	b	66	51	0·02
Taralga ..	b	69	37	0
Taree	b	73	58	0·14
T'nt'rfield	b	64	47	0
Wagga ..	b	74	38	0
Walcha ..	f	56	29	0·14
Walgett	b	72	49	0
Warialda	b	61	43	0
Warrah ..	b	63	41	0·53
W'ntw'rth	b	66	51	0
W'll'ng'ng	b	70	49	0
Young ..	b	73	40	0

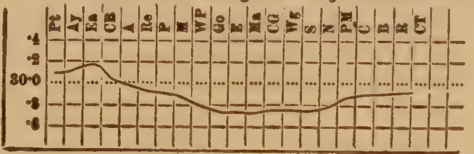
SYDNEY OBSERVATORY.

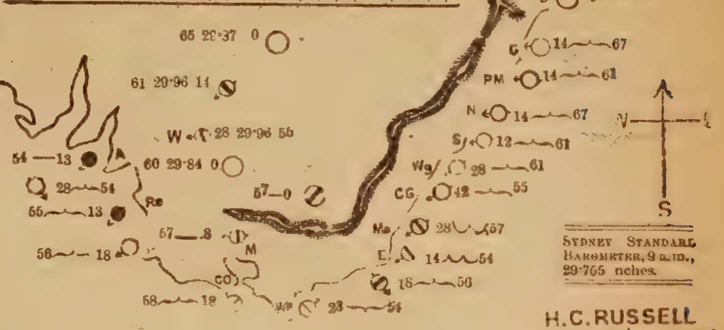
Latitude 33° 51' 41" S. Longitude 10h. 4m. 50·81s. E.
Magnetic Variation, 9° 35' 37" E.

Average Annual Rainfall for 28 years.................49·489
Average for 29 years from Jan. 1 to Sep. 30 1887.. .. 41·210
Total Rainfall from Jan. 1, to Oct. 5 1887 .... 48·342
Barometers corrected to 32° Fah. and Mean Sea Level

23 30·20 59

Curve showing state of Barometer.





Fine, wind N. Cloudy, wind E. T. storm, wind S. Rain, wind W.
If it is calm, the symbol used without the arrow
Smooth sea.
Heavy sea.
Very heavy sea.

TIME BALL
Drops 1 p.m. Sydney mean time; 2h. 55m. 9·19s. a.m. Greenwich mean time

Sydney Standard Barometer, 9 a.m., 29·765 nches.

H. C. RUSSELL
Government Astronomer.

NOTES EXPLANATORY OF MAP.

In the list of stations the column headed W.T. gives the state of the weather at 9 a.m., b standing for blue sky; c, detached clouds; d, drizzling rain; f, fog; g, gloomy; h, hazy; m, misty; n, frosty; o, overcast; p, passing showers; r, rain; s, snow; t, thunder; u, threatening. The next column, M'x gives the maximum temperature for previous 24 hours. M'n the corresponding minimum temperature; r'n, the rain for the previous 24 hours. The symbols used in the map are explained on the margin. At each coast station the wind symbol is placed like a vane pointing to the direction from which the wind is coming. A clear circle with it means fine weather; a circle with bar, cloudy weather; and a black spot, raining. Next to this symbol are placed figures denoting the number of miles the wind is moving per hour; next, a symbol showing the state of the sea; and, lastly, figures denoting the shade temperature at 9 a.m. The barometer curve shows the state of barometers round the coast from Perth to Cooktown: Pt, Perth; Ay, Albany; Ea, Eucla; CB, Cape Bords; A, Adelaide; Re, Robe; P, Portland; M, Melbourne; WP, Wilson's Promontory; Go, Gabo; E, Eden; Ma, Moruya; CG Jervis Bay; Wg, Wollongong; S, Sydney; N, Newcastle; PM, Port Macquarie; C, Clarence River; B, Brisbane; R, Rockhampton; Ct, Cooktown. Inland the state of barometer is given in figures at Albury, Deniliquin, Wentworth Menindie, Bourke, and Alice Springs. The barometer curve enables one at a glance to trace the depressions, beginning with Western Australia, and passing along eastwards; northerly winds preceding them, and southerly following.

The rainfall on Sundays or holidays, when this map is not published, is in all cases included in the quantities shown by the next following map.

9 A.M. OBSERVATIONS.

Western Australia.—Fine, with light easterly winds and calms, foggy at Perth, sea smooth. Extremes of barometers and temperature: Geraldton, 30·15; Carnarvon, 29·93; Cossack, 77·; and Esperance Bay, 55·.

South Australia.—Generally overcast and raining, or threatening rain south of Farina; fine with scattered clouds towards Port Darwin, in north; light west to south winds, and smooth to moderate sea. From 0·05 to 0·40in. of rain recorded south of Strangways Springs, heaviest at Port Pirie, 0.50 inch. Extremes of barometers and temperature: Alice Springs, 30·20; Cape Northumberland, 20·86; Daly Waters, 86·, and Adelaide, 54·.

Victoria.—Fine but cloudy, and in places foggy; light variable winds and calms prevail. Sea smooth to moderate. Light rain reported from scattered stations. Extremes of barometers and temperature: Ballarat, 29·90; Echuca, 29·76 and 61·; and Hamilton, 52·.

Tasmania.—Fine but cloudy, with light north to east winds, and moderate to rough sea. Circular Head reports 0·04in. rain. Extremes of barometers and temperature: Low Heads, 29·90; Circular Head, 29·85; Southport, 55·; and Falmouth, 51·.

New Zealand.—Fine in extreme north of North Island; cloudy in centre, and passing showers at Wellington; strong south-east winds on north-west coast. Barometers: In north, 29·90; over centre, from 29·90 to 30·0; in south, 30·10.

New South Wales.—Generally fine, with scattered clouds, except in south-east parts, where it is gloomy, showery, or misty; winds are light to fresh from west to south-west; the sea is smooth to moderate, but rough off Moruya and Eden. During the past 24 hours light rain fell generally in the Eastern Division. Extremes of barometers and temperature: Wentworth, 29·96; Moruya, 29.74; Clarence, 67·; and Kiandra, 42·. For further particulars see map.

Queensland.—Generally fine, but cloudy at scattered places; gloomy in North interior; winds are generally very light, with calms; thunderstorm reported at Cloncarry in early morning. Extremes of barometers and temperature: Townsville, 29·95; Roma, 29·84 and 57·; Thursday Island, 81·.

3 P.M. OBSERVATIONS.

Adelaide.—S.W., 18, fine, temperature 59·.

Victoria.—Portland, S.W., 28, overcast, sea smooth, temperature 58·; Cape Otway, W., 28, gloomy and threatening, sea moderate, temperature 55·; Melbourne, S., 8, overcast and gloomy, temperature 58·; Cape Schanck, calm, fine but cloudy, sea slight, temperature 59·; Wilson's Promontory, N.E., 23, overcast, sea moderate, temperature 55·; Lakes Entrance, E., 23, fine but cloudy, temperature 61·; Omeo, calm, overcast, temperature 55·.

New South Wales.—Menindie, S.W., 14, fine and warm, temperature 65·; Wentworth, W.S.W., 28, fine but cloudy, temperature 62·; Deniliquin, W., 14, fine, temperature 69·; Eden, S.S.E., 14, overcast and showery, light east sea, temperature 58·; Moruya, S., 28, overcast and gloomy, sea rough, temperature 68·; Cape St. George, S.S.W., 56, fine but cloudy, heavy east sea, temperature 66·; Sydney, S., 15, fine, scattered clouds, sea smooth, temperature 65·; Newcastle, E., 14, fine, sea smooth, temperature 66·; Port Macquarie, E., 28, fine, sea smooth, temperature 73·; Clarence River, N.N.E., 14, dull, sea smooth, temperature 76·; Walgett, S.W., 14, fine, temperature 73·; Dubbo, W., 14, fine but cloudy, temperature 62·; Goulburn, calm, dull, temperature 61·.

Queensland.—Townsville, calm, cloudy and threatening, sea smooth, temperature 61·; Mackay, N., 18, fine but cloudy; Blackall, S.E., 8, overcast; Thargomindah N.E., 8, fine; Rockhampton, E., 28, cloudy and gloomy, temperature 77·; Roma, W., 28, overcast, temperature 61·; Cape Moreton, N.E., 8, cloudy, temperature 72·; Brisbane, N.E., 23, fine but cloudy, temperature 75·; Hughenden, S.E., 23, fine but cloudy; Boulia, S.E., 28, fine but cloudy.

HEIGHT OF RIVERS ABOVE SUMMER LEVEL.

Macintyre: At Mungindi, 4ft. 6in., falling. Barwon: At Mogil Mogil, 5ft. falling; at Walgett, 21ft., falling. Namoi: At Walgett, 9ft., falling. Darling: At Brewarrina, 19ft., falling; at Bourke, 29ft. 5in., stationary; at Louth, 28ft. 2in., falling; at Tilpa 34ft., stationary; at Wilcannia, 31ft., rising; at Menindie, 25ft. 2in., rising; at Pooncarie, 22ft. 6in., rising; at Wentworth, 21ft. 4in. Murrumbidgee: At Wagga, 12ft.; at Hay, 13ft. 6in., falling; at Balranald, 16ft. Murray: At Albury, 10ft. 9in.; at Euston, 22ft. 3in.

ASTRONOMICAL MEMORANDA FOR OCTOBER 6.

Sun rises at 5.32, sets at 6.5; Moon, 9.53 p.m., 7.45 a.m.; Mercury, 6.16 a.m., 7.24 p.m.; Venus, 4.7 a.m., 4.23 p.m.; Mars, 3.31 a.m., 2.14 p.m.; Jupiter, 6.54 a.m., 8.12 p.m.; Saturn, 2.21 a.m., 12.35 p.m. Full moon, October 2; new moon, October 17.
High water at Fort Denison October 6: 10.25 a.m.; 10.44 p.m.

H. A. LENEHAN,
Acting Government Astronomer.

METEOROLOGICAL REPORTS AND MAP FOR OCTOBER 6, 1887.

Stations.	wt	Mx	m	Rn
Albury ..	c	69	50	0·10
Armidale	b	63	40	0
Balranald	b	81	43	0
Bathurst	c	65	43	0
Bendem'r	b	69	40	0
Bodalla ..	g	61	50	0·06
Bourke ..	b	80	56	0
Bungarra	b	—	52	0
C'md'n H.	b	70	59	0
C. St. Geo.	b	65	52	0·10
Carcoar ..	g	60	36	0·04
Casino ..	b	82	57	0
Cassilis ..	b	65	46	0
Clarence .	-	—	—	-
C'nd'b'lin	c	88	51	0·15
Cooma ..	c	61	41	0·34
Coonab'n.	b	74	35	0
Cowra ..	b	68	48	0·03
Cudg'llico	b	72	49	0
Deniliq'n.	b	74	40	0·01
Dubbo ..	b	70	38	0·18
Eden	b	59	52	0
Euston ..	b	74	44	0
Forbes ..	b	—	47	0
G'bo Isl'nd	b	65	54	0
Glen Inn's	b	64	42	0
Goulburn	g	63	42	0·61
Grafton ..	b	—	—	0
Gulgong .	b	67	33	0
Gunned'h	b	74	45	0
Hay	b	70	47	0
Inverell. .	b	70	45	0
Kiandra. .	g	60	38	0·05
Lismore .	b	80	61	0
Maitland.	b	74	52	0·01
M'n'ng H.	b	67	50	0
Marsdens.	c	69	52	0·02
Menindie.	b	73	50	0
Molong ..	b	66	35	0·10
M'r'ng'r'll	c	70	44	0·06
Moree ..	b	75	50	0
Moruya ..	g	65	58	0·10
Moss Vale	u	60	49	0·08
Mt. Hope	b	72	49	0
M. Vict'ria	b	64	41	0
Mudgee ..	b	71	37	0
M'rr'mb'h	c	70	42	0
M'rr'r'ndi	b	63	48	0
Mus'lbr'k	b	77	45	0
Narrabri	b	78	53	0
Newcastle	c	70	52	0·05
Orange ..	c	60	41	0
Picton ..	u	61	48	0·51
P. M'q'rie	b	73	50	0
P. St'ph'n	b	65	51	0
Q'nbeyan	b	70	40	0·12
Quirindi	b	66	45	0·09
Singleton	b	—	56	0
SYDNEY ..	u	66	45	0·13
Taralga ..	c	73	40	0
Taree	b	76	53	0
T'nt'rfield	b	69	43	0
Wagga ..	c	74	38	1·26
Walcha ..	b	59	49	0
Walgett	b	76	52	0
Warialda	b	75	44	0·01
Warrah ..	b	64	43	0·14
W'ntw'rth	b	75	45	0·01
W'll'ng'ng	c	71	49	0·13
Young ..	c	81	41	0·39

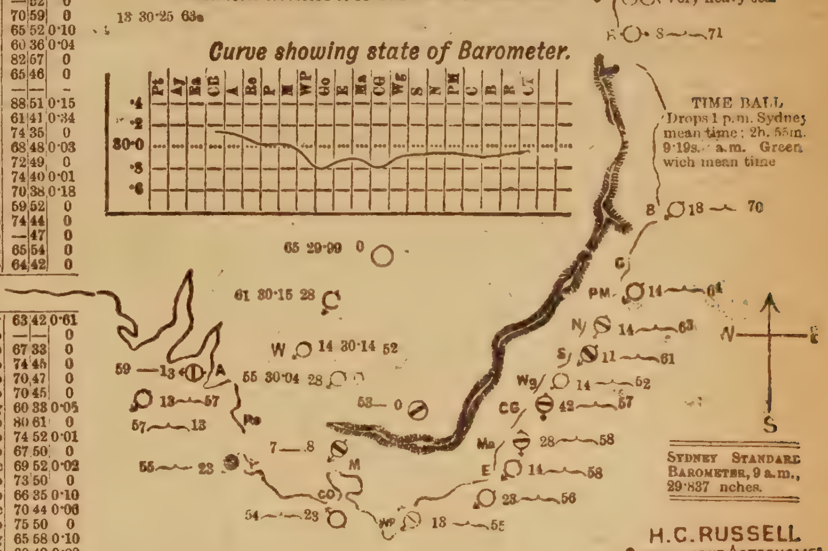
SYDNEY OBSERVATORY.

LATITUDE 33° 51' 41" S. LONGITUDE 10h. 4m. 50·81s. E.

MAGNETIC VARIATION, 9° 35' 37" E.

Average Annual Rainfall for 28 years .... 49·489
Average for 29 years from Jan. 1 to Sep. 30 1887 .... 41·210
Total Rainfall from Jan. 1, to Oct. 6 1887 .... 48·467

Barometers corrected to 32° Fah. and Mean Sea Level



Fine, wind N. Cloudy wind E. T. storm, wind S. Rain, wind W. If it is CALM, the symbol used without the arrow. Smooth sea. Heavy sea. Very heavy sea.

TIME BALL.
Drops 1 p.m. Sydney mean time; 2h. 55m. 9·19s. a.m. Greenwich mean time

SYDNEY STANDARD BAROMETER, 9 a.m., 29·837 inches.

H. C. RUSSELL,
GOVERNMENT ASTRONOMER.

NOTES EXPLANATORY OF MAP.

In the list of stations the column headed W.T. gives the state of the weather at 9 a.m., b standing for blue sky; c, detached clouds; d, drizzling rain; f, fog; g, gloomy; h, hazy; m, misty; n, frosty; o, overcast; p, passing showers; r, rain; s, snow; t, thunder; u, threatening. The next column, Mx gives the maximum temperature for previous 24 hours. M'n the corresponding minimum temperature; R'n, the rain for the previous 24 hours. The symbols used in the map are explained on the margin. At each coast station the wind symbol is placed like a vane pointing to the direction from which the wind is coming. A clear circle with it means fine weather; a circle with bar, cloudy weather; and a black spot, raining. Next to this symbol are placed figures denoting the number of miles the wind is moving per hour; next, a symbol showing the state of the sea; and, lastly, figures denoting the shade temperature at 9 a.m. The barometer curve shows the state of barometers round the coast from Perth to Cooktown:—Pt, Perth; Ay, Albany; Ea, Eucla; CB, Cape Borda; A, Adelaide; Re, Robe; P, Portland; M, Melbourne; WP, Wilson's Promontory; Go, Gabo; E, Eden; Ma, Moruya; CG Jervis Bay; Wg, Wollongong; S, Sydney; N, Newcastle; PM, Port Macquarie; C, Clarence River; B, Brisbane; R, Rockhampton; Ct, Cooktown. Inland the state of barometer is given in figures at Albury, Deniliquin, Wentworth, Menindie, Bourke, and Alice Springs. The barometer curve enables one at a glance to trace the depressions, beginning with Western Australia, and passing along eastwards; northerly winds preceding them, and southerly following.

The rainfall on Sundays or holidays, when this map is not published, is in all cases included in the quantities shown by the next following map.

9 A.M. OBSERVATIONS.

Western Australia.—Line interrupted.

South Australia.—Generally fine, but cloudy; gloomy and raining lightly in parts; light west to south-west winds and calms prevail. Light rain recorded south of Port Augusta, but partial, the heaviest being 0·30in. Extremes of barometers and temperature: Alice Springs, 30·25; Cape Northumberland, 29·97 and 56°; and Port Darwin, 85°.

Victoria.—Fine generally inland; cloudy and showery on coast, with moderate westerly winds; light rain recorded, but partial, from 0·01 to 0·24 inch; sea moderate, but rough, off Wilson's Promontory. Extremes of barometers and temperature: Ballarat, 30·04; Omeo, 29·87; Melbourne, 57°; and Hamilton, 50°.

Tasmania.—Fine in north, cloudy and gloomy in south; light variable winds and moderate sea; light rain recorded in extreme north-west and south parts. Extremes of barometers and temperature: Low Heads, 29·88; Hobart, 29·79 and 60°; and Falmouth, 54°.

New Zealand.—Fine throughout, with light south-easterly winds. Barometers: Generally, 30·10in.

New South Wales.—Fine in north and west parts, cloudy and threatening in south and east, with light to fresh west to south-west winds and smooth to moderate sea. During the past 24 hours light rain fell in south and east, the heaviest being at Wagga Wagga, 1·25in. Extra station: Camden, rain 0·55in. Extremes of barometers and temperature: Menindie, 30·15; Forbes, 29·77; Lismore, 68°; and Cooma, 48°. For further particulars see map.

Queensland.—Cloudy and gloomy in north, with light south-west to south-east winds; in south generally fine, but cloudy at few scattered places, with light to fresh north-west to south-west winds and smooth sea, but rough in Gulf of Carpentaria; thunderstorm and light rain reported from around Brisbane. Extremes of barometers and temperature: Normanton, 80; Brisbane, 29·85; Thursday Island, 84°; and Blackall, 65°.

3 P.M. OBSERVATIONS.

Adelaide.—Calm, fine, temperature 63°.

Victoria.—Portland, W., 28, fine but cloudy, sea smooth, temperature 59°; Cape Otway, N.W., 28, fine, but cloudy, sea slight, temperature 58°; Melbourne, S.W., 8, fine, but cloudy, temperature 60°; Cape Schanck, calm, fine but cloudy, sea slight, temperature 59°; Wilson's Promontory, W., 18, fine, but cloudy, sea rough, temperature 56°; Lakes Entrance, W., 23, fine but cloudy, temperature 62°; Omeo, S.E., 13, overcast and gloomy, temperature 56°.

New South Wales.—Menindie, S.W., 26, fine and clear, temperature 64°; Wentworth, S.W., 14, fine, temperature 59°; Deniliquin, S.W., 14, fine but cloudy, temperature 66°; Eden, S., 28, fine, but cloudy, light east sea, temperature 64°; Moruya, S., 28, fine but cloudy, sea moderate, temperature 62°; Cape St. George, S., 56, fine, sea moderate, temperature 61°; Sydney, S.S.W. 19, fine and cool, sea moderate, temperature 62°; Newcastle, S., 14, showery, sea smooth, temperature 61°; Port Macquarie, S., 42, cloudy and unsettled, sea smooth, temperature 72°; Clarence River, S.E., 42, fine, sea smooth, temperature 70°; Walgett, S.W., 14, cloudy, temperature 73°; Dubbo, S.W., 14, cloudy and threatening, temperature 63°; Goulburn, N.W., 14, dull, temperature 61°.

Queensland.—Townsville, S.E., 8, sultry and hazy, temperature 81°; Mackay, E., 13, fine and hot; Blackall, N.W., 8, fine, but cloudy and warm; Rockhampton, W.S.W., 18, fine, but scattered clouds, temperature 82; Cape Moreton, N., 13, cloudy and threatening, temperature 76°; Brisbane, W., 13, overcast and gloomy, temperature 75°.

HEIGHT OF RIVERS ABOVE SUMMER LEVEL.

Macintyre: At Yetman, low; at Mungindi, 4ft. 6in., falling. Barwon: At Walgett, 20ft., falling. Namoi: At Walgett, 8ft., falling. Culgoa: At Goodooga, very low. Darling: At Brewarrina, 18ft. 6in., falling; at Bourke, 29ft. 5in., falling; at Louth, 28ft. 1in., falling; at Tilpa, 34ft., falling; at Wilcannia, 31ft.; at Menindie, 25ft. 2in., rising; at Pooncarie, 22ft. 7in., rising; at Wentworth, 21ft. 3in. Murrumbidgee: At Gundagai, stationary, 10ft.; at Wagga, 13ft. 3in.; at Hay, 13ft. 1in., falling; at Balranald, 16ft. 4in., rising. Murray: At Albury, 11ft.; at Euston, 22ft. 4in.

ASTRONOMICAL MEMORANDA FOR OCTOBER 7.

Sun rises at 5.31, sets at 6.6; Moon, 10.47 p.m., 8.23 a.m.; Mercury, 6.16 a.m., 7.28 p.m.; Venus, 4.4 a.m., 4.18 p.m.; Mars, 3.28 a.m., 2.12 p.m.; Jupiter, 6.50 a.m., 8.10 p.m.; Saturn, 2.18 a.m., 12.32 p.m. Full moon, October 2; new moon, October 17.

High water at Fort Denison October 7: 11.2 a.m.; 11.21 p.m.

H. A. LENEHAN,
Acting Government Astronomer.

METEOROLOGICAL REPORTS AND MAP FOR OCTOBER 7, 1887.

Stations.	wt	Mx	Mn	Rn
Albury ..	b	68	43	0
Armidale	b	64	41	0
Balranald	b	83	41	0
Bathurst	b	63	35	0·07
Bendem'r	b	68	30	0
Bodalla ..	b	64	51	0·10
Bourke ..	b	80	44	0
Bungarra	b	—	52	0
C'md'n H.	g	64	54	0·16
C. St. Geo.	g	62	51	0·07
Carcoar ..	b	39	31	0
Casino	-	84	49	0
Cassilis ..	b	65	59	0
Clarence .	b	81	59	0
C'nd'b'lin	b	88	46	0
Cooma ..	g	64	40	0·02
Coonab'n.	b	72	37	0
Cowra ..	b	71	41	0
Cudg'llico	b	72	43	0
Deniliq'n.	b	73	39	0
Dubbo ..	b	70	36	0
Eden	b	64	49	0
Euston ..	b	74	42	0
Forbes ..	b	—	48	0
G'bo Isl'nd	b	60	52	0
Glen Inn's	b	68	39	0
EUCLA				
Goulburn	g	63	40	0
Grafton ..	b	85	55	0
Gulgong .	b	68	33	0
Gunned'h	b	75	47	0
Hay	b	68	43	0
Inverell. .	b	72	42	0
Kiandra. .	f	59	32	0·08
Lismore .	b	82	58	0
Maitland .	c	74	57	0·05
M'n'ng H.	b	62	51	0
Marsdens.	b	70	49	0
Menindie.	b	68	48	0
Molong ..	b	65	33	0
M'r'ng'r'll	b	69	42	0
Moree ..	b	83	48	0
Moruya ..	b	65	53	0·03
Moss Vale	u	58	50	0·20
Mt. Hope	b	73	47	0
M. Vict'ria	b	59	39	0·20
Mudgee ..	b	74	34	0
M'rr'mb'h	b	68	37	0
M'rr'r'ndi	c	63	46	0
Mus'lbr'k	g	80	51	0·06
Narrabri	b	73	46	0
Newcastle	c	71	52	0·05
Orange ..	c	60	29	0
Picton ..	u	66	53	0·47
P. M'q'rie	b	70	49	0·80
P. St'ph'n	-	—	—	—
Q'nbeyan	c	68	36	0·19
Quirindi	b	76	42	0·0
Singleton	b	—	43	0·10
SYDNEY ..	g	62	55	0·19
Taralga ..	g	71	41	0·06
Taree ...	g	76	56	0·01
T'nt'rfield	b	70	46	0
Wagga ..	b	74	33	0
Walcha ..	b	67	32	0·02
Walgett	b	76	49	0
Warialda	b	77	40	0
Warrah ..	b	68	44	0·04
W'ntw'rth	b	71	49	0
W'll'ng'ng	c	68	54	0
Young ..	b	74	35	0

SYDNEY OBSERVATORY

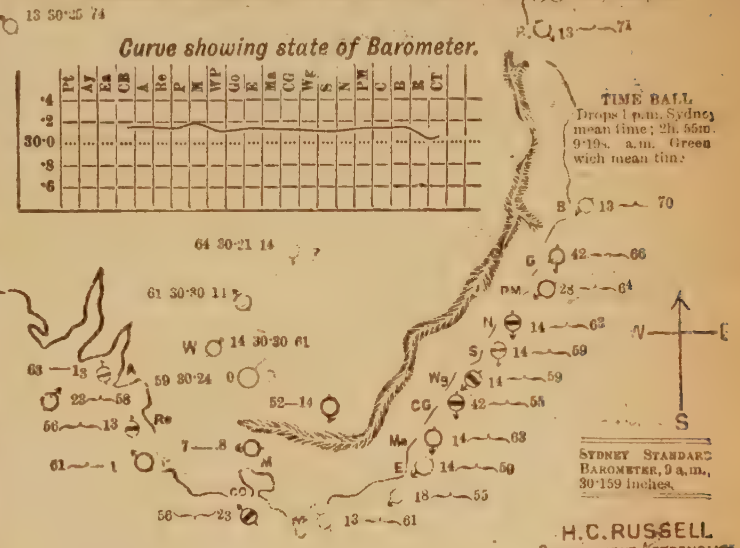
LATITUDE 33° 51' 41" S. LONGITUDE 10h. 4m. 50·31s. E.

MAGNETIC VARIATION, 9° 35' 37" E.

Average Annual Rainfall for 28 years .... 49·459
Average for 29 years from Jan. 1 to Sep. 30 1887 .. 41·210
Total Rainfall from Jan. 1, to Oct. 7 1887 .... 45·658

Barometers corrected to 32° Fah. and Mean Sea Level

Fine, wind N. — Cloudy wind E. — T. storm, wind S. — Rain, wind W.
If it is CALM, the symbol used without the arrow
Smooth sea.
Heavy sea.
Very heavy sea.



NOTES EXPLANATORY OF MAP.

In the list of stations the column headed W.t. gives the state of the weather at 9 a.m., b standing for blue sky; c, detached clouds; d, drizzling rain; f, fog; g, gloomy; h, hazy; m, misty; n, frosty; o, overcast; p, passing showers; r, rain; s, snow; t, thunder; u, threatening. The next column, Mx gives the maximum temperature for previous 24 hours. Mn the corresponding minimum temperature; Rn, the rain for the previous 24 hours. The symbols used in the map are explained on the margin. At each coast station the wind symbol is placed like a vane pointing to the direction from which the wind is coming. A clear circle with it means fine weather; a circle with bar, cloudy weather; and a black spot, raining. Next to this symbol are placed figures denoting the number of miles the wind is moving per hour; next, a symbol showing the state of the sea; and, lastly, figures denoting the shade temperature at 9 a.m. The barometer curve shows the state of barometers round the coast from Perth to Cooktown: Pt, Perth; Ay, Albany; Ea, Eucla; CB, Cape Borda; A, Adelaide; Re, Robe; P, Portland; M, Melbourne; WP, Wilson's Promontory; Go, Gabo; E, Eden; Ma, Moruya; CG Jervis Bay; Wg, Wollongong; S, Sydney; N, Newcastle; PM, Port Macquarie; C, Clarence River. B, Brisbane; R, Rockhampton; Ct, Cooktown. Inland the state of barometer is given in figures at Albury, Deniliquin, Wentworth, Menindie, Bourke, and Alice Springs. The barometer curve enables one at a glance to trace the depressions, beginning with Western Australia, and passing along eastwards; northerly winds preceding them, and southerly following.

The rainfall on Sundays or holidays, when this map is not published, is in all cases included in the quantities shown by the next following map.

9 A.M. OBSERVATIONS.

Western Australia.—No telegrams received.

South Australia.—Generally fine, with scattered clouds at places along north and south coasts, and smooth to moderate sea; winds are light to fresh, north to north-east, with temperature rising; rain recorded at Cape Northumberland, 0·01in. Extremes of barometers and temperature: Alice Springs, 30·25; Streaky Bay, 29·95; Port Darwin, 86°; and Robe, 56°.

Victoria.—Fine inland, with light variable winds and calms, scattered clouds, with light west to north-west winds on coast; sea smooth to moderate, light rain recorded at scattered places. Extremes of barometers and temperature: Melbourne, 30·19; Wilson's Promontory, 30·04; Echuca, 61°; and Omeo, 54°.

Tasmania.—Fine but cloudy, except at Southport, where it is raining lightly; the sea is smooth to moderate, and winds light south-west to west; light rain recorded in north-west and south parts. Extremes of barometers and temperature: Circular Head, 30·08; Falmouth, 29·97 and 57°; and Southport, 52°.

New Zealand.—Fine, with north-east winds, except in extreme north, where it is showery and squally; the sea is rough. Barometers: Generally, 30·10in.

New South Wales.—Fine west of the range, with light east to north-east winds and calms. In eastern division it is generally cloudy, with light west to south-west winds, but fresh at few places along the coast, and foggy at Kiandra; sea smooth to moderate. During the past 24 hours light rain fell generally in the eastern division. Extra station: Camden, rain, 0·26 inch. Extremes of barometers and temperature: Hay, 30·32; Eden, 30·07; Warialda, 66°; and Kiandra, 43°. For further particulars see map.

Queensland.—Fine, with light south to south-east winds and smooth to moderate sea. Thunderstorm at Cape Moreton yesterday evening. Light rain recorded at a few scattered places. Extremes of barometers and temperature: Rockhampton, 30·14; Cooktown, 30·01; Townsville, 86°; and Thargomindah, 50°.

3 P.M. OBSERVATIONS.

Adelaide.—N., 18, fine, but dusty, temperature 74°.

Victoria.—Portland, N., 18, fine, sea smooth, temperature 68°; Cape Otway, S.S.W., 13, fine, sea smooth, temperature 62°; Melbourne, S. 13, fine, temperature 62°; Cape Schanck, S.W., 8, fine but cloudy, temperature 60°; Wilson's Promontory, W., 15, fine, but cloudy, sea slight, temperature 54°; Lakes Entrance, S.E., 13, fine but cloudy, temperature 63°.

New South Wales.—Menindie, N.W., 14, fine, temperature 68°; Wentworth, N., 14, fine, temperature 62°; Deniliquin, N.W., 14, fine and clear, temperature 71°; Eden, S.W., 14, fine, sea smooth, temperature 66°; Moruya, E.N.E., 28, fine but cloudy, sea smooth, temperature 69°; Cape St. George, S.E., 28, fine but cloudy, sea smooth, temperature 63°; Sydney, S.S.E. 11, cloudy and dull, sea smooth, temperature 61°; Newcastle, S.S.E., 28, fine, sea smooth, temperature 62°; Port Macquarie, S., 42, fine, sea smooth, temperature 72°; Clarence River, S., 42, fine, sea smooth, temperature 70°; Walgett, S.W., 14, fine, temperature 73°; Dubbo, S.W., 14, fine, temperature 65°; Goulburn, calm, fine, temperature 63°.

Queensland.—Townsville, S.E., 18, sultry, temperature 79°; Mackay, E., 13, fine and clear; Hughenden, N.W., fine and hot; Rockhampton, N.W., 13, fine, temperature 80°; Roma, calm, fine, temperature 77°; Cape Moreton, E.S.E., 13, fine, temperature 73°; Brisbane, N.N.E., 18, fine but cloudy, temperature 73°; Blackall, calm, fine and clear; Boulia, S.E., 13, fine, clear, and warm.

HEIGHT OF RIVERS ABOVE SUMMER LEVEL.

Macintyre: At Mungindi, 3ft. 6in., stationary. Barwon: At Mogil Mogil, 4ft., falling; at Walgett, 19ft., falling. Namoi: At Walgett, 7ft., falling. Culgoa: At Goodooga, low. Darling: At Brewarrina, 17ft. 6in., falling; at Bourke, 28ft., falling; at Louth, 28ft., falling; at Tilpa, 34ft., stationary; Wilcannia, 31ft.; at Menindie, 25ft. 3in., rising; at Pooncarie, 22ft.; at Wentworth, 21ft. Murrumbidgee: At Gundagai, 10ft., stationary; at Wagga, 13ft.; at Hay, 13ft., falling; at Balranald, 22ft. 4in. Murray: At Albury, 10ft. 11in.; at Euston, 22ft. 4in.

ASTRONOMICAL MEMORANDA FOR OCTOBER 8.

Sun rises at 5.29, sets at 6.7; Moon, 11.41 p.m., 9.3 a.m.; Mercury, 6.16 a.m., 7.31 p.m.; Venus, 4.1 a.m., 4.14 p.m.; Mars, 3.26 a.m., 2.11 p.m.; Jupiter, 6.47 a.m., 8.7 p.m.; Saturn, 2.14 a.m., 12.29 p.m. Full moon, October 2; new moon, October 17.

High water at Fort Denison October 8: 11.39 a.m.; — p.m.

H. A. LENEHAN,
Acting Government Astronomer.

METEOROLOGICAL REPORTS AND MAP FOR OCTOBER 8, 1887.

Stations.	wt	Mx	m'n	Rn
Albury ..	b	71	45	0
Armidale	-	—	—	-
Balranald	b	87	44	0
Bathurst	b	69	36	0
Bendem'r	b	69	40	0
Bodalla ..	g	67	51	0
Bourke ..	b	81	49	0
Bungarra	b	—	48	0
C'md'n H.	b	66	54	0
C. St. Geo.	b	66	52	0
Carcoar ..	b	50	34	0
Casino ..	c	64	51	0
Cassilis ..	o	67	49	0
Clarence .	b	80	59	0
C'nd'b'lin	b	88	48	0
Cooma ..	c	72	48	0
Coonab'n.	n	77	34	0
Cowra ..	b	80	45	0
Cudg'llico	b	78	44	0
Deniliq'n.	b	79	45	0
Dubbo ..	b	74	38	0
Eden	b	66	53	0
Euston ..	b	87	47	0
Forbes ..	b	—	49	0
G'bo Isl'nd	b	59	50	0
Glen Inn's	b	74	46	0
Goulburn	b	72	44	0
Grafton ..	b	87	54	0
Gulgong .	-	—	—	-
Gunned'h	b	79	47	0
Hay	b	80	43	0
Inverell. .	b	72	42	0
Kiandra ..	n	67	25	0
Lismore .	b	82	59	0
Maitland .	b	73	52	0
M'n'ng H.	b	65	45	0
Marsdens.	-	—	—	-
Menindie.	b	76	53	0
Molong ..	b	65	33	0
M'r'ng'r'll	b	72	44	0
Moree ..	b	86	45	0
Moruya ..	g	69	56	0
Moss Vale	b	62	53	0
Mt. Hope	b	81	54	0
M. Vict'ria	b	64	40	0
Mudgee ..	u	77	37	0
M'rr'mb'h	b	73	40	0
M'rr'r'ndi	f	65	49	0
Mus'lbr'k	g	75	43	0
Narrabri	b	79	75	0
Newcastle	b	70	56	0
Orange ..	b	60	38	0
Picton ..	b	67	50	0
P. M'q'rie	b	59	50	0
P. St'ph'n	b	65	48	0
Q'nbeyan	b	69	29	0
Quirindi	b	77	46	0
Singleton	b	—	51	0
SYDNEY ..	b	62	57	0
Taralga ..	b	67	38	0
Taree	b	75	53	0
T'nt'rfield	b	76	47	0
Wagga ..	b	72	31	0
Walcha ..	f	67	38	0
Walgett	b	74	46	0
Warialda	b	80	39	0
Warrah ..	b	76	45	0
W'ntw'rth	b	80	50	0
W'll'ng'ng	b	69	51	0
Young ..	b	75	51	0

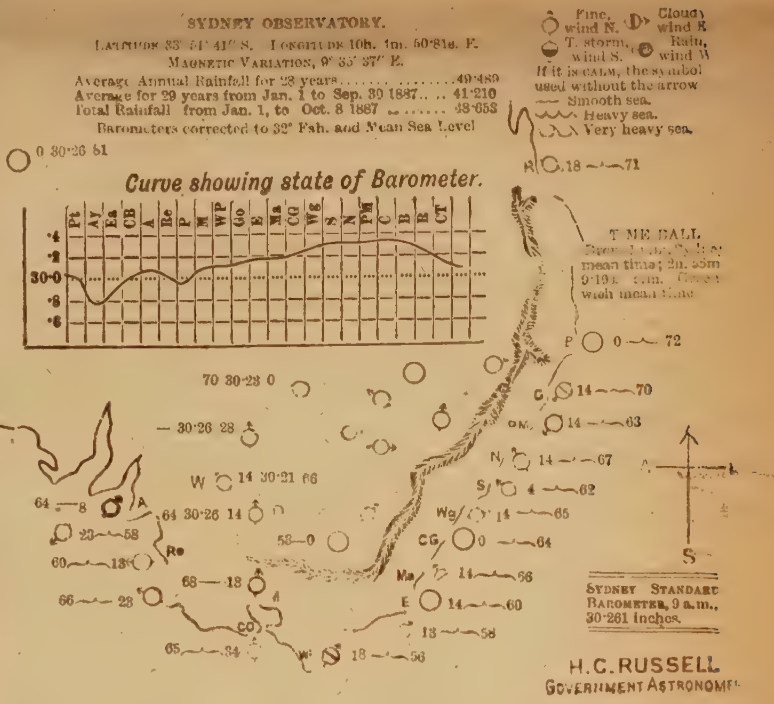
SYDNEY OBSERVATORY.

LATITUDE 33° 51' 41" S. LONGITUDE 10h. 4m. 50·81s. E.

MAGNETIC VARIATION, 9° 35' 37" E.

Average Annual Rainfall for 28 years........ 49·489
Average for 29 years from Jan. 1 to Sep. 30 1887.. .. 41·210
Total Rainfall from Jan. 1, to Oct. 8 1887 .. .. 48·653

Barometers corrected to 32° Fah. and Mean Sea Level



NOTES EXPLANATORY OF MAP.

In the list of stations the column headed W.T. gives the state of the weather at 9 a.m., b standing for blue sky; c, detached clouds; d, drizzling rain; f, fog; g, gloomy; h, hazy; m, misty; n, frosty; o, overcast; p, passing showers; r, rain; s, snow; t, thunder; u, threatening. The next column, M'x gives the maximum temperature for previous 24 hours. M'n the corresponding minimum temperature; r'n, the rain for the previous 24 hours. The symbols used in the map are explained on the margin. At each coast station the wind symbol is placed like a vane pointing to the direction from which the wind is coming. A clear circle with it means fine weather; a circle with bar, cloudy weather; and a black spot, raining. Next to this symbol are placed figures denoting the number of miles the wind is moving per hour; next, a symbol showing the state of the sea; and, lastly, figures denoting the shade temperature at 9 a.m. The barometer curve shows the state of barometers round the coast from Perth to Cooktown:—Pt, Perth; Ay, Albany; Ea, Eucla; CB, Cape Borda; A, Adelaide; Re, Robe; P, Portland; M, Melbourne; WP, Wilson's Promontory; Go, Gabo; E, Eden; Ma, Moruya; CG Jervis Bay; Wg, Wollongong; S, Sydney; N, Newcastle; PM, Port Macquarie; C, Clarence River, B, Brisbane; R, Rockhampton; Ct, Cooktown. Inland the state of barometer is given in figures at Albury, Deniliquin, Wentworth Menindie, Bourke, and Alice Springs. The barometer curve enables one at a glance to trace the depressions, beginning with Western Australia, and passing along eastwards; northerly winds preceding them, and southerly following.

The rainfall on Sundays or holidays, when this map is not published, is in all cases included in the quantities shown by the next following map.

9 A.M. OBSERVATIONS.

Western Australia.—Fine on the west coast, cloudy and showery in south; squally west to south winds; moderate to rough sea. Rainfall: Albany, 0·21in. Extremes of barometers and temperature: Ashburton, 30·16 and 77°; Albany, 29.73 and 54°.

South Australia.—Fine and warm throughout; light N.E. to N. winds and calms; smooth to moderate sea. Between Burra and Alice Springs fresh to strong winds are blowing. Extremes of barometers and temperature: Alice Springs, 30·26; Eucla, 29·89; Port Darwin, 87°; and Cape Borda58°.

Victoria.—Fine, with scattered clouds; inland, fresh N.E. to E. winds; on the coast, squally N.W. to N.E. winds, smooth sea. Extremes of barometers and temperature: Omeo, 30·21 and 55°; Portland, 29·98; Echuca, 68°.

Tasmania.—Fine, with scattered clouds; fresh N. to E. winds, moderate sea; light rains fallen in S.E. parts. Extremes of barometers and temperature: Low Heads, 30·16; Circular Head, 30·03 and 55°; Hobart, 58°.

New Zealand.—Gloomy in north; fine in Cook Strait; showery in south, from W.; light to fresh N.E. to N.W. winds. Barometers:—In south, 30·00; to northward, 29·90.

New South Wales.—Fine generally, scattered clouds at places in east parts, light and variable winds or calms, smooth sea. No rain has fallen. Extremes of barometers and temperature: Port Macquarie, 30·32; Gabo Island, 30·13; Clarence, 70°; and Bathurst, 46°. For further particulars see map.

Queensland.—Fine throughout, light scattered clouds at places, light S.E. to N.E. winds in south, west and S.E. winds in north parts, smooth to moderate sea. Extremes of barometers and temperature: Brisbane, 30·28; Thursday Island, 30·04 and 83°; Roma, 69°.

3 P.M. OBSERVATIONS.

New South Wales.—Menindie, N., 28, fine, temperature 72°; Wentworth, calm, fine and warm, temperature 68°; Deniliquin, N.E., 28, fine, temperature 75°; Eden, N.E., 14, fine, sea smooth, temperature 63°; Moruya, N.E., 28, fine, sea smooth, temperature 67°; Cape St. George, E.N.E., 28, fine, sea smooth, temperature 67°; Sydney, N.E. 14, fine, sea smooth; Newcastle, N.E., 14, fine, sea smooth, temperature 66°; Port Macquarie, E., 14, fine, sea smooth, temperature 73°; Walgett, N.E., fine, temperature 75°; Dubbo, calm, fine, temperature 68°; Goulburn, N.W., 14, fine, temperature 64°.

Queensland.—Townsville, S.E., 18, fine but cloudy, sea moderate, temperature 77°; Mackay, S.E., fine and clear; Boulia, E., 23, fine; Rockhampton, E., 23, fine, temperature 78°; Roma, S.E., 8, fine, temperature 68°; Cape Moreton, E., 8, fine and clear, temperature 73°; Thargomindah, N.E., fine; Blackall, calm, fine, clear, and warm.

HEIGHT OF RIVERS ABOVE SUMMER LEVEL.

Macintyre: At Yetman, low; at Mungindi, 3ft. 6in., stationary. Barwon: At Mogil Mogil, 3ft. 6in., falling; at Walgett, 17ft. 6in., falling. Namoi: At Walgett, 8ft., falling. Culgoa: At Goodooga, low. Darling: At Brewarrina, 16ft. 6in., falling; at Bourke, 28ft. 2in., falling; at Louth, 28ft., stationary; at Tilpa, 34ft., stationary; Wilcannia, 31ft. 2in., stationary; at Menindie, 28ft. 3in., rising; at Pooncarie, 22ft. 6in.; at Wentworth, 21ft. Murrumbidgee: At Gundagai, 9ft. 6in., falling; at Wagga, 12ft. 4in.; at Hay, 13ft. 5in. rising; at Balranald, 16ft. 4in. Murray: At Albury, 10ft. 8in.; at Euston, 22ft. 2in.

ASTRONOMICAL MEMORANDA FOR OCTOBER 10.

Sun rises at 5.27, sets at 6.8; Moon, —— p.m., 9.49 a.m.; Mercury, 6.16 a.m., 7.38 p.m.; Venus, 3.54 a.m., 4.6 p.m.; Mars, 3.22 a.m., 2.9 p.m.; Jupiter, 6.40 a.m., 8.1 p.m.; Saturn, 2.6 a.m., 12.22 p.m. Full moon, October 2; new moon, October 17.

High water at Fort Denison October 10: 12.46 a.m.; 1.10 p.m

H. A. LENEHAN,
Acting Government Astronomer.

METEOROLOGICAL REPORTS AND MAP FOR OCTOBER 11, [illegible]

Stations.	W.T.	Mx	Mn	Rn
Albury ..	b	60	46	0·08
Armidale	b	72	39	0
Balranald	b	95	49	0·12
Bathurst	c	60	35	0·02
Bendem'r	c	76	35	0
Bodalla ..	r	65	43	0·43
Bourke ..	b	74	47	0
Buncarra	b	—	36	0
C'md'n H.	b	76	51	0
C. St. Geo.	r	74	47	0·03
Carcoar ..	g	62	34	0·13
Casino ..	c	90	52	0
Cassilis ..	c	67	44	0
Clarence .	u	84	62	0
C'nd'b'lin	c	89	51	0
Cooma ..	g	56	34	0·11
Coonab'n.	h	70	34	0
Cowra ..	b	66	42	0
Cudg'llico	h	67	47	0
Deniliq'n.	b	65	40	0·07
Dubbo ..	b	67	41	0
Eden	r	57	49	0·50
Euston ..	b	70	48	0
Forbes ..	g	—	47	0
G'bo Isl'nd	c	56	49	0·13
Glen Inn's	b	74	36	0
Goulburn	r	59	34	0·12
Grafton ..	g	91	53	0
Gulgong .	g	68	31	0
Gunned'h	b	78	45	0
Hay ..	c	85	45	0·12
Inverell ..	b	77	39	0
Kiandra ..	s	38	27	0
Lismore .	c	87	60	0
Maitland .	b	79	50	0
M'n'ng H.	b	74	45	0
Marsdens.	b	65	53	0
Menindie.	r	67	58	0
Molong ..	o	51	39	0
M'r'ng'r'll	b	65	46	0
Moree ..	b	83	43	0
Moruya ..	o	64	46	0·53
Moss Vale	r	61	41	0·06
Mt. Hope	r	69	47	0·14
M. V'ct'ria	b	58	34	0
Mudgee ..	b	74	38	0
M'rr'mb'h	c	60	42	0·04
M'rr'r'ndi	b	71	45	0
Mus'lbr'k	b	75	39	0
Narrabri	b	79	40	0
Newcastle	b	81	48	0
Orange ..	c	55	38	0
Picton ..	b	62	37	0
P. M'q'rie	b	80	43	0
P. St'ph'n	b	60	42	0
Q'nbeyan	c	64	32	0·03
Quirindi	g	72	45	0
Singleton	—	—	—	—
SYDNEY ..	c	71	50	0
Taralga ..	—	—	—	—
Taree	b	86	48	0
T'nt'rfield	b	79	41	0
Wagga ..	b	73	29	0·10
Walcha ..	b	72	29	0
Walgett	b	71	49	0
Warialda	b	84	35	0
Warrah ..	b	75	50	0
W'ntw'rth	c	66	51	0·03
W'll'ng'ng	c	71	49	0
Young ..	g	68	38	0·06

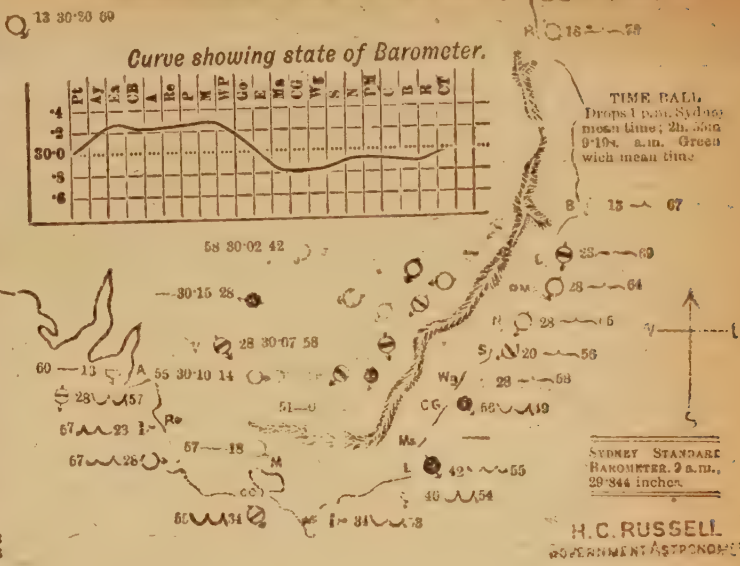
SYDNEY OBSERVATORY.

LATITUDE 33° 51' 41" S. LONGITUDE 10h. 4m. 50·81s. E.

MAGNETIC VARIATION, 9° 35' 37" E.

Average Annual Rainfall for 28 years .... 49·489
Average for 29 years from Jan. 1 to Sep. 30 1887 .. .. 41·210
Total Rainfall from Jan. 1, to Oct. 11 1887 ...... 48·660

Barometers corrected to 32° Fah. and Mean Sea Level



NOTES EXPLANATORY OF MAP.

In the list of stations the column headed W.T. gives the state of the weather at 9 a.m., b standing for blue sky; c, detached clouds; d, drizzling rain; f, fog; g, gloomy; h, hazy; m, misty; e, frosty; o, overcast; p, passing showers; r, rain; s, snow; t, thunder; u, threatening. The next column, M'x gives the maximum temperature for previous 24 hours. M'n the corresponding minimum temperature; R'n, the rain for the previous 24 hours. The symbols used in the map are explained on the margin. At each coast station the wind symbol is placed like a vane pointing to the direction from which the wind is coming. A clear circle with it means fine weather, a circle with bar, cloudy weather; and a black spot, raining. Next to this symbol are placed figures denoting the number of miles the wind is moving per hour; next, a symbol showing the state of the sea; and, lastly, figures denoting the shade temperature at 9 a.m. The barometer curve shows the state of barometers round the coast from Perth to Cooktown: Pt, Perth; Ay, Albany; Ea, Eucla; CB, Cape Borda; A, Adelaide; Re, Robe; P, Portland; M, Melbourne; WP, Wilson's Promontory; Go, Gabo; E, Eden; Ma, Moruya; CG Jervis Bay; Wg, Wollongong; S, Sydney; N, Newcastle; PM, Port Macquarie; C, Clarence River; B, Brisbane; R, Rockhampton; Ct, Cooktown. Inland the state of barometer is given in figures at Albury, Deniliquin, Wentworth, Menindie, Bourke, and Alice Springs. The barometer curve enables one at a glance to trace the depressions, beginning with Western Australia, and passing along eastwards; northerly winds preceding them, and southerly following.

The rainfall on Sundays or holidays, when this map is not published, is in all cases included in the quantities shown by the next following map.

9 A.M. OBSERVATIONS.

Western Australia.—Fine weather, with light variable, chiefly easterly winds, and smooth sea. Extremes of barometers and temperature: Cossack, 30·07 and 80°; Geraldton, 29·96; and Perth, 64°.

South Australia.—Generally cloudy and unsettled, south of Hawker, with light rains in parts; scattered clouds in Northern Territory; fresh S.W. to S.E. winds, rough sea. Rainfall: Partial south of Yongala, but less than 0·20 inch; Mount Gambier, 0·26in. Extremes of barometers and temperature: Streaky Bay, 30·29; Port Darwin, 29·96 and 88°; Cape Northumberland, 55°.

Victoria.—Fine, but unsettled, inland; cloudy and squally on and near the coast; fresh to strong S. to S.E. winds, rough sea. Rainfall: Generally from 0·11in. to 0·69in. Extremes of barometers and temperature: Cape Otway, 30·24; Lakes Entrance, 30·11; Ballarat, 45°; and Horsham, 60°.

Tasmania.—Cloudy and unsettled generally; light east winds and calms, moderate sea. Rainfall: Generally from 0·10in. to 0·20in. Extremes of barometers and temperature: Hobart, 30·28 and 51°; Low Heads, 30·22 and 53°.

New Zealand.—Showery in Cook Strait; fine in north and south parts; west wind in north; east winds to southward. Barometers: In north, 29·90; over centre, 29·70; in south, 30·00.

New South Wales.—Cloudy in the east and west divisions, fine but unsettled in centre parts, showery or raining in south-east parts, and on the Lower Darling; snowing at Kiandra. Winds are generally fresh to strong, and on the coast squally from W. to S. and S.E.; the sea is rough or rising south of Cape St. George. During the past 24 hours rain fell generally in south and S.E. parts—heaviest, 0·59in. at Bega. Extremes of barometers and temperature: Menindie, 30·15; Cape St. George, 29·83; Newcastle, 65°; and Kiandra, 35°. For further particulars see map.

Queensland.—Fine generally, fresh S.W. to S.E. winds, smooth sea. Thunderstorms all along the coast yesterday. Extremes of barometers and temperature: Normanton, 30·02 and 83°; Brisbane, 29·87; and Roma, 64°.

3 P.M. OBSERVATIONS.

Victoria.—Portland, E.S.E., 28, fine, sea slight, temperature 58°; Cape Otway, S.E., 28, fine, but cloudy, sea moderate, temperature 57°; Melbourne, S.S.W., 18, fine, but cloudy, temperature 59°; Omeo, S.W., 23, fine, but cloudy, temperature 48°; Cape Schanck, S.E., 28, fine, but cloudy and misty, sea rough, temperature, 57°; Wilson's Promontory, E. [illegible] but cloudy, sea rough, temperature 53°; Lakes Entrance, S.E., 28, fine, but cloudy, temperature 59°.

New South Wales.—Menindie, S.W., 28, fine and cool, temperature 65°; Wentworth, S., 14, fine and clear, temperature 60°; Deniliquin, S., 14, fine but cloudy, temperature 68°; Eden, S., 42, cloudy and showery, heavy E. sea, temperature 60°; Moruya, S., 56, gale, squally, heavy rain, sea heavy, temperature 58°; Cape St. George, S.E., 56, showery, sea heavy, temperature 58°; Sydney, S., 23, passing showers, with hail, sea moderate, temperature 55°; Newcastle, S.W., 42, cloudy and dull, sea smooth, temperature 60.; Port Macquarie, E., 14, cloudy and unsettled, sea smooth, temperature 72°; Clarence River, S.E., 14, fine, sea smooth, temperature 67°; Walgett, S.W., 14, fine and cool, temperature 67°; Dubbo, S.W., 28, cloudy, temperature 60°; Goulburn, S.E., 56, dull, temperature 64°.

Queensland.—Townsville, S.E., 18, gloomy, sea smooth, temperature 78°; Mackay, N.E., 23, fresh, fine, and hot; [illegible] all, calm, fine, clear, and warm; Rockhampton, S.S.W., 18, fine, temperature 85°; Roma, S., 13, squally, temperature 70; Cape Moreton, S.W., 13, fine and clear, temperature 75°; Brisbane, S.S.W., 18, fine, temperature 75°; Boulia, S.W., 23, fine and clear; Hughenden, S.W., fine and cool.

HEIGHT OF RIVERS ABOVE SUMMER LEVEL.

Macintyre: At Yetman, low; at Mungindi, 3ft. 6in., stationary. Barwon: At Mogil Mogil, 3ft., stationary; at Walgett, 13ft., falling. Namoi: At Walgett, 14ft., falling. Culgoa: At Goodooga, low. Darling: At Brewarrina, 15ft., falling; at Bourke, 25ft. 1in., falling; at Louth, 28ft., stationary; at Tilpa, 34ft., stationary; Wilcannia, 31ft. 2in., stationary; at Menindie, 25ft. 5in.; at Pooncarie, 22ft. 7in.; at Wentworth, 21ft.; Murrumbidgee: At Gundagai, 9ft. 3in., rising; at Wagga, 11ft. 5in.; at Hay, 13ft. 7in., rising; at Balranald, 10ft. 9in. Murray: At Albury, 18ft.; at Euston, 22ft. 5in.

ASTRONOMICAL MEMORANDA FOR OCTOBER 12.

Sun rises at 5.24, sets at 6.9; Moon, 2.13 a.m., 12.35 p.m.; Mercury, 6.15 a.m., 7.44 p.m.; Venus, 3.48 a.m., 3.58 p.m.; Mars, 3.18 a.m., 2.7 p.m.; Jupiter, 6.34 a.m., 7.55 p.m.; Saturn, 1.58 a.m., 12.16 p.m. Full moon, October 2; new moon, October 17.

High water at Fort Denison October 12: 2.51 a.m.; 3.29 p.m.

H. A. LENEHAN,
Acting Government Astronomer.

METEOROLOGICAL REPORTS AND MAP FOR OCTOBER 12, 1887.

Stations.	wt	Mx	mn	Rn.
Albury ..	b	67	38	0
Armidale	n	56	39	0
Balranald	b	83	43	0
Bathurst	b	54	30	0·06
Bendem'r	c	56	36	0·10
Bodalla ..	g	62	50	0·15
Bourke ..	b	73	46	0
Buncarra	b	—	36	0
C'md'n H.	b	70	53	0
C. St. Geo.	r	57	48	0·27
Carcoar ..	b	53	38	0·23
Casino ..	b	79	31	0
Cassilis ..	n	61	40	0
Clarence .	b	71	53	0
C'nd'b'lin	b	87	41	0
Cooma ..	g	56	36	0·04
Coonab'n.	n	64	30	0
Cowra ..	b	68	41	0·04
Cudg'llico	b	71	46	0·05
Deniliq'n.	b	76	37	0
Dubbo ..	b	65	32	0·01
Eden	g	59	48	0·24
Euston ..	b	79	44	0
Forbes ..	b	—	45	0
G'bo Isl'nd	r	60	53	0·07
Glen Inn's	b	57	36	0
Goulburn	b	54	32	0·12
Grafton ..	b	77	47	0
Gulgong ..	b	67	30	0
Gunned'h	b	69	44	0
Hay ..	b	82	42	0
Inverell ..	b	67	39	0
Kiandra ..	b	43	28	0·70
Lismore ..	b	79	48	0
Maitland .	b	73	45	0·03
M'n'ng H.	c	67	50	0·07
Marsdens.	b	68	48	0
Menindie.	—	—	—	—
Molong ..	b	50	31	0
M'r'ng'r'll	b	67	40	0
Moree ..	b	71	41	0·04
Moruya ..	c	61	49	0·05
Moss Vale	b	49	40	0·54
Mt. Hope	b	73	46	0
M. Vict'ria	b	58	37	0·40
Mudgee ..	n	70	28	0
M'rr'mb'h	b	67	33	0
M'rr'r'ndi	b	61	44	0·11
Mus'lbr'k	b	73	35	0
Narrabri	b	72	41	0
Newcastle	c	60	46	0·05
Orange ..	b	51	36	0·05
Picton ..	b	57	46	0·02
P. M'q'rie	b	69	49	0·05
P. St'ph'n	c	57	45	0·39
Q'nbeyan	b	68	35	0
Quirindi	c	64	44	0
Singleton	—	—	—	—
SYDNEY ..	b	66	49	0·27
Taralga ..	b	58	32	0
Taree ..	b	73	51	0·06
T'nt'rfield	b	80	41	0
Wagga ..	b	74	22	0
Walcha ..	b	58	32	0·13
Walgett	b	67	43	0
Warialda	b	70	34	0
Warrah ..	b	73	43	0·10
W'ntw'rth	b	76	48	0
W'll'ng'ng	b	—	—	0·37
Young	b	78	33	0

SYDNEY OBSERVATORY.

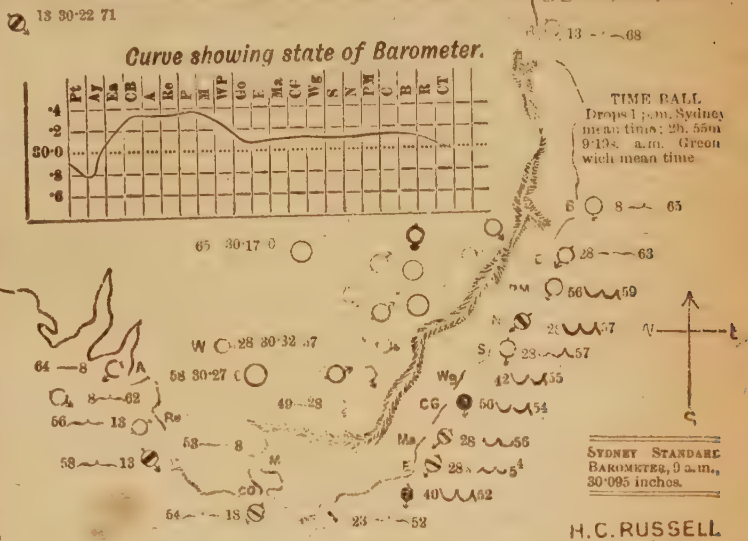
LATITUDE 33° 51' 41" S. LONGITUDE 10h. 4m. 50·8s. E.

MAGNETIC VARIATION, 9° 35' 37" E.

Average Annual Rainfall for 28 years .... 49·469
Average for 29 years from Jan. 1 to Sep. 30 1887 .. .. 41·210
Total Rainfall from Jan. 1, to Oct. 12 1887 ...... 48·945

Barometers corrected to 32° Fah. and Mean Sea Level

Fine, wind N. Cloudy wind E. T. storm, wind S. Rain, wind W.
If it is calm, the symbol used without the arrow
Smooth sea.
Heavy sea.
Very heavy sea.



TIME BALL.
Drops 1 p.m. Sydney mean time; 2h. 55m. 9·10s. a.m. Greenwich mean time

SYDNEY STANDARD BAROMETER, 9 a.m., 30·095 inches.

H. C. RUSSELL,
GOVERNMENT ASTRONOMER

NOTES EXPLANATORY OF MAP.

In the list of stations the column headed W.T. gives the state of the weather at 9 a.m., b standing for blue sky; c, detached clouds; d, drizzling rain; f, fog; g, gloomy; h, hazy; m, misty; n, frosty; o, overcast; p, passing showers; r, rain; s, snow; t, thunder; u, threatening. The next column, Mx gives the maximum temperature for previous 24 hours. Mn the corresponding minimum temperature. Rn, the rain for the previous 24 hours. The symbols used in the map are explained on the margin. At each coast station the wind symbol is placed like a vane pointing to the direction from which the wind is coming. A clear circle with it means fine weather; a circle with bar, cloudy weather; and a black spot, raining. Next to this symbol are placed figures denoting the number of miles the wind is moving per hour; next, a symbol showing the state of the sea; and, lastly, figures denoting the shade temperature at 9 a.m. The barometer curve shows the state of barometers round the coast from Perth to Cooktown: Pt, Perth; Ay, Albany; Ea, Eucla; CB, Cape Borda; A, Adelaide; Ro, Robe; P, Portland; M, Melbourne; W P, Wilson's Promontory; Go, Gabo; E, Eden; Ma, Moruya; C Jervis Bay; Wg, Wollongong; S, Sydney; N, Newcastle; PM, Port Macquarie; C, Clarence River; B, Brisbane; R, Rockhampton; Ct, Cooktown. Inland the state of barometer is given in figures at Albury, Deniliquin, Wentworth, Menindie, Bourke, and Alice Springs. The barometer curve enables one at a glance to trace the depressions, beginning with Western Australia, and passing along eastwards; northerly winds preceding them, and southerly following.

The rainfall on Sundays or holidays, when this map is not published, is in all cases included in the quantities shown by the next following map.

9 A.M. OBSERVATIONS.

Western Australia.—Fine in N.W. parts; more or less cloudy and sultry in S.W. and south; light variable, chiefly N.W. to N.E. winds; smooth to moderate sea. Extremes of barometers and temperature: Cossack, 30·08 and 77°; Albany, 29·77; and Esperance Bay, 65°.

South Australia.—Generally fine, pleasant weather; rising temperature; light S.E. to E. winds or calms; smooth sea. In Northern Territory more or less cloudy and unsettled. Thunderstorms during the night between Port Darwin and Yam Creek. Extremes of barometers and temperature: Cape Borda, 30·33; Port Darwin, 29·99 and 83°; Cape Northumberland, 55°.

Victoria.—Cloudy and unsettled, showery in east parts, light to fresh S.E. to S.W. winds, smooth sea; misty and squally in the Straits. Extremes of barometers and temperature: Cape Otway, 30·32; Omeo, 30·24 and 45°; and Horsham, 59°.

Tasmania.—Fine generally; light variable, chiefly easterly winds, smooth sea. Extremes of barometers and temperature: Southport, 30·24 and 52°; Circular Head, 30·22; and Low Heads, 55°.

New Zealand.—Misty rain in extreme south, fine to northward, light variable winds. Barometers: In north, 30·10; over centre, 30·00; in south, 29·90.

New South Wales.—Cloudy and unsettled along the coast; showery at Cape St. George and Gabo. Over the remainder of the colony fine, clear weather prevails. It is generally cold, and frosts are reported from the high table-lands. Winds are fresh to strong and squally from S.W. to S. along the coast; light easterly winds or calms prevail inland. The sea is rough or rising all along the coast, except north of the Clarence. Extra station: Camden, 0·37in. rain fallen. Extremes of barometers and temperature: Wentworth, 30·32; Clarence and Moruya, 30·07; Bourke, 65°; and Mount Victoria, 40. For further particulars see map.

Queensland.—Fine generally, except on a portion of the tropical coast, where gloomy weather prevails; light S. E. winds along the coast; S.W. to west winds in the southern interior; smooth sea. Extremes of barometers and temperature: Roma, 30·08 and 61°; Cooktown, 29·97; and Thursday Island, 84°.

3 P.M. OBSERVATIONS.

South Australia.—Adelaide, S.W., 8, fine, temperature 67°.

Victoria.—Portland, S., 18, fine, sea smooth, temperature 58°; Cape Otway, W.S.W., 23, fine, sea moderate, temperature 57°; Melbourne, E.N.E., 13, fine, temperature 57°; Wilson's Promontory, W., 13, cloudy and squally, sea moderate, temperature 56°; Lakes Entrance, S.W., 18, fine, temperature 62°.

New South Wales.—Menindie, W., 14, fine temperature 65°; Wentworth, S.E., 14, fine, temperature 62°; Deniliquin, calm, fine temperature 68°; Eden, S.W., 42, fine, heavy E. sea, temperature 61°; Moruya, S.S.E., 42, fine, sea moderate, temperature 59°; Cape St. George, S., 56, fine, but cloudy, sea heavy, temperature 63°; Sydney, S.S.W., 30, fine, but cold and squally, sea rough, temperature 60°; Newcastle, S.S.W., 56, fine, sea heavy, temperature 60°; Port Macquarie, S.S.W., 56, cloudy, sea moderate, temperature 66°; Clarence River, E.S.E., 14, fine, sea smooth, temperature 68°; Walgett, calm, fine, and clear, temperature 71°; Dubbo, S., 14, fine, temperature 62°; Goulburn, S.E., 14, fine, temperature 60°.

Queensland.—Townsville, S.E., 18, fine, sea smooth, temperature 78°; Mackay, N.E., fine and hot; Blackall, N.E., fine and warm; Rockhampton, E.N.E., 18, fine, temperature 78°; Roma, E., 8, fine, temperature 77°; Cape Moreton, S.E., 18, fine temperature 68°; Brisbane, S.S.W., 18, fine, temperature 75°; Hughenden, N.E., fine and hot; Boulia, S.E., 28, fine.

HEIGHT OF RIVERS ABOVE SUMMER LEVEL.

Macintyre: At Mungindi, 3ft., stationary. Barwon: At Mogil Mogil, 3ft., stationary; at Walgett, 11ft. 6in., falling. Namoi: At Walgett, 3ft., 6in., falling. Culgoa: At Goodooga, low. Darling: At Brewarrina, 13ft., falling; at Bourke, 24ft. 3in., falling; at Louth, 27ft. 11in., falling; at Tilpa, 34ft. stationary; Wilcannia, 31ft. 2in.; at Menindie, 25ft. 5in.; at Pooncarie, 22ft. 9in., rising; at Wentworth, 21ft.; Murrumbidgee: At Gundagai, 9ft. 5in., rising; at Wagga, 9ft. 5in.; at Hay, 13ft. 6in., falling; at Balranald, 16ft. 10in. Murray: At Albury, 9ft. 10in.; at Euston, 27ft. 7in., rising.

ASTRONOMICAL MEMORANDA FOR OCTOBER 13.

Sun rises at 5.23, sets at 6.10; Moon, 3 a.m., 1.38 p.m.; Mercury, 6.15 a.m., 7.47 p.m.; Venus, 3.45 a.m., 3.54 p.m.; Mars, 3.16 a.m., 2.6 p.m.; Jupiter, 6.31 a.m., 7.52 p.m.; Saturn, 1.54 a.m., 12.13 p.m. Full moon, October 2; new moon, October 17.

High water at Fort Denison, 4.11 a.m.; 4.52 p.m.

H. A. LENEHAN,
Acting Government Astronomer.

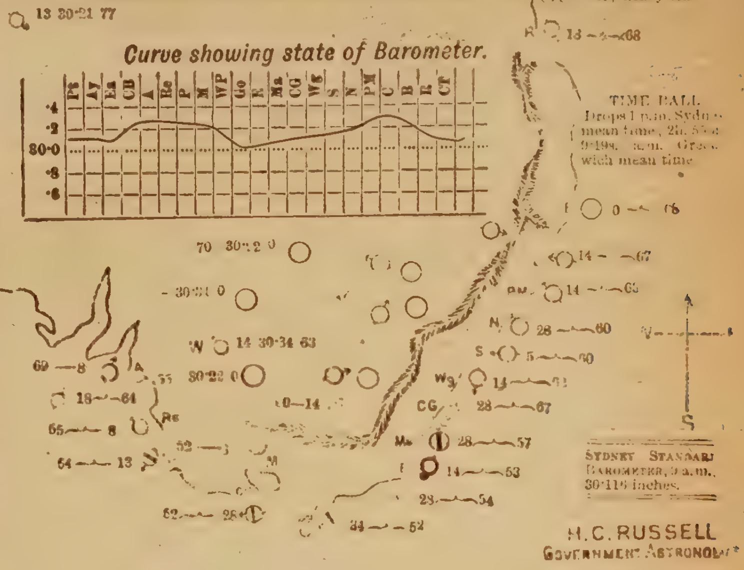
Stations.	wt	Mx	mn	Rn
Albury ..	b	69	44	0
Armidale	b	59	35	0
Balranald	b	87	48	0
Bathurst	b	64	32	0
Bendem'r	b	60	32	0
Bodalla ..	b	61	36	0
Bourke ..	b	82	51	0
Bundarra	b	—	—	0
C'md'n H.	b	70	52	0
C. St. Geo.	b	70	46	0
Carcoar ..	n	55	33	0
Casino ..	b	79	43	0
Cassilis ..	b	62	41	0
Clarence .	b	75	54	0
C'nd'b'lin	b	86	43	0
Cooma ..	n	59	28	0
Coonab'n.	b	72	29	0
Cowra ..	b	73	43	0
Cudg'llico	b	72	43	0
Deniliq'n.	b	76	40	0
Dubbo ..	b	73	33	0
Eden	b	61	47	0·01
Euston ..	b	85	37	0
Forbes ..	b	—	48	0
G'ho Isl'nd	o	55	51	0
Glen Inn's	b	70	34	0
Goulburn	b	64	33	0
Grafton ..	b	73	48	0
Gulgong .	b	67	33	0
Gunned'h	b	74	44	0
Hay ..	b	78	42	0
Inverell ..	b	67	36	0
Kiandra ..	n	40	26	0
Lismore .	b	82	50	0
Maitland .	b	67	45	0
M'n'ng H.	b	67	46	0·02
Marsdens.	b	70	48	0
Menindie.	b	75	55	0
Molong ..	b	50	31	0
M'r'ng'r'll	b	70	41	0
Moree ..	b	80	44	–
Moruya ..	b	65	47	0
Moss Vale	n	56	39	0
Mt. Hope	b	79	49	0
M. Vict'ria	b	66	38	0
Mudgee ..	b	77	32	0
M'rr'mb'h	b	71	37	0
M'rr'r'ndi	b	62	42	0
Mus'lbr'k	b	71	38	0
Narrabri	b	80	40	0
Newcastle	b	63	43	0
Orange ..	b	56	36	0
Picton ..	b	63	36	0
P. M'q'rie	b	57	46	0
P. St'ph'n	b	61	45	0
Q'nbeyan	b	69	42	0
Quirindi	b	74	44	0
Singleton	b	—	46	0
SYDNEY ..	b	63	48	0
Taralga ..	b	71	36	0
Taree	b	67	48	0·01
T'nt'rfield	b	79	46	0
Wagga ..	b	74	35	0
Walcha ..	n	59	26	0
Walgett	b	73	46	0
Warialda	b	76	35	0
Warrah ..	b	70	42	0
W'ntw'rth	b	78	48	0
W'll'ng'ng	b	66	45	0
Young ..	b	78	36	0

SYDNEY OBSERVATORY.

LATITUDE 33° 51' 41" S. LONGITUDE 10h. 4m. 60·91s. E.
MAGNETIC VARIATION, 9° 25' 37" E.

Average Annual Rainfall for 28 years .... 49·489
Average for 29 years from Jan. 1 to Sep. 30 1887 ... 41·210
Total Rainfall from Jan. 1, to Oct. 15 1887 ... 43·947
Barometers corrected to 32° Fah. and Mean Sea Level

Fine, wind N. Cloudy, wind E. T. storm, wind S. Rain, wind W. If it is calm, the symbol used without the arrow.
Smooth sea.
Heavy sea.
Very heavy sea.



NOTES EXPLANATORY OF MAP.

In the list of stations the column headed W.T. gives the state of the weather at 9 a.m. b standing for blue sky; c, detached clouds; d, drizzling rain; f, fog; g, gloomy; h, hazy; m, misty; n, frosty; o, overcast; p, passing showers; r, rain; s, snow; t, thunder; u, threatening. The next column, Mx gives the maximum temperature for previous 24 hours. Mn the corresponding minimum temperature; Rn, the rain for the previous 24 hours. The symbols used in the map are explained on the margin. At each coast station the wind symbol is placed like a vane pointing to the direction from which the wind is coming. A clear circle with it means fine weather; a circle with bar, cloudy weather; and a black spot, raining. Next to this symbol are placed figures denoting the number of miles the wind is moving per hour; next, a symbol showing the state of the sea; and, lastly, figures denoting the shade temperature at 9 a.m. The barometer curve shows the state of barometers round the coast from Perth to Cooktown: Pt, Perth; Ay, Albany; Ea, Eucla; CB, Cape Borda; A, Adelaide; Ro, Robe; P, Portland; M, Melbourne; WP, Wilson's Promontory; Go, Gabo; E, Eden; Ma, Moruya; CG Jervis Bay; Wg, Wollongong; S, Sydney; N, Newcastle; PM, Port Macquarie; C, Clarence River; B, Brisbane; R, Rockhampton; Ct, Cooktown. Inland the state of barometer is given in figures at Albury, Deniliquin, Wentworth, Menindie, Bourke, and Alice Springs. The barometer curve enables one at a glance to trace the depressions, beginning with Western Australia, and passing along eastwards; northerly winds preceding them, and southerly following.

The rainfall on Sundays or holidays, when this map is not published, is in all cases included in the quantities shown by the next following map.

9 A.M. OBSERVATIONS.

Western Australia.—Fine but sultry in N.W., with light variable winds; cloudy and unsettled in S.W. and south parts, with light N.W. to westerly winds; smooth sea. Rainfall: On the S.W. coast, from 0·10 to 0·37 inch. Extremes of barometers and temperature: Geraldton, 30·17; [illegible] 30·06 and 59·; Cossack, 87·.

South Australia.—Generally fine and warm; rising temperature; light N. to N.E. winds and calms; smooth sea. In the Northern Territory unsettled and light rain fallen. Extremes of barometers and temperature: Farina, 30·25; Eucla, 29·95; Port Darwin, 85·; Cape Northumberland, 54·.

Victoria.—Fine, but generally more or less cloudy; on parts of the coast threatening and squally, light to fresh W. to S.W. winds, smooth sea. Extremes of barometers and temperature: Echuca, 30·26; Wilson's Promontory, 30·07; Horsham, 61·; and Hamilton, 49·.

Tasmania.—Unsettled, gloomy and squally in south; fresh westerly winds, moderate to rough sea. Extremes of barometers and temperature: Circular Head, 30·01; Hobart, 29·82 and 57·; Falmouth, 51·.

New Zealand.—Showery and calm in south, showery from N.W., with rough sea in Cook Strait; fine, with N.W. wind and rough sea in extreme north. Barometers: Russell, 29·70; Wellington, 29·40; Bluff, 29·30.

New South Wales.—Fine and clear generally; light scattered clouds in S.E. parts; generally rising temperature, though still frosty on parts of the high table-lands. Winds are generally light and variable or calm; west prevails in east parts. The sea is moderate. During the past 24 hours very light rain fell at a few places on the coast. Extremes of barometers and temperature: Wentworth and Menindie, 30·34; Gabo, 30·; Bourke, 70·; and 38·. For further particulars see map.

Queensland.—Fine in south, with southerly winds on the coast, and variable winds inland. More or less cloudy and gloomy in north parts, with S.E. winds on the coast, and N.E. winds inland. Geraldton and Dungeness report light rain falling. Extremes of barometers and temperature: Brisbane, 30·26; Normanton, 29·90; Cape Moreton, 65·; and Cooktown, 82·.

3 P.M. OBSERVATIONS.

South Australia.—Adelaide, E.W., 8, fine, temperature 78·.

Victoria.—Portland, S.S.W., 23, fine, sea smooth, temperature 59·; Cape Otway, W.N.W., 18, fine, but cloudy, sea moderate, temperature 56·; Melbourne, S.S.W., 8, fine, temperature [illegible] Cape Schanck, S.W., 13, fine, but cloudy, sea slight, temperat[ure] 57·; Wilson's Promontory, W., 34, raining lightly, sea moder[ate] temperature 53·; Lakes Entrance, W., 23, fine, but cloudy, te[m]perature 64·; Omeo, N.W., 23, fine, temperature 69·.

New South Wales.—Menindie, calm, fine and clear, tempera[ture] 73·; Wentworth, S.W., 14, fine and warm, temperature 7[illegible] Deniliquin, N.W., 14, fine and clear, temperature 75·; Eden, [illegible] 14, fine, but cloudy, light E. sea, temperature 61·; Mor[uya] E.N.E., 26, fine, sea smooth, temperature 66·; Cape St. Geo[rge] N.W., 14, fine, but cloudy, sea moderating, temperature [illegible] Sydney, W., 1, fine, warm, and pleasant, sea smooth, temperat[ure] 70·; Port Macquarie, N.E., 42, fine, sea moderate, temperatu[re] 70·; Clarence River, N.E., 42, fine, sea smooth, temperature [illegible] Walgett, N.E., 14, fine, temperature 78·; Dubbo, W., 28, fi[ne] temperature 65·; Goulburn, N.W., 14, fine, temperature 61·.

Queensland.—Townsville, S.E., 28, fine, sea smooth, tempe[ra]ture 77·; Mackay, E., dull, and like rain; Blackall, calm, [illegible] and cool; Hughenden, N.E., 18 close and dull, like rain; Ro[ck]hampton, E., 18, cloudy, temperature 74·; Roma, calm, f[ine] temperature 79·; Cape Moreton, N.E., 18, cloudy, temperat[ure] 73·; Brisbane, N.N.E., 18, fine, temperature 74·; Thargomind[ah] N.E., fine; Boulia, S.E., 18, fine and warm.

HEIGHT OF RIVERS ABOVE SUMMER LEVEL.

Macintyre: At Yetman, low; at Mungindi, 3ft. 6in., statio[n]ary. Barwon: At Mogil Mogil, 2ft. 9in., falling; at Walge[tt] 10ft., falling. Namoi: At Walgett, 3ft., falling. Culgoa: Goodooga, low. Darling: At Brewarrina, 11ft., falling; Bourke, 22ft. 3in.; at Louth, 27ft. 10in., falling; at Til[pa] 34ft., stationary; Wilcannia, 31ft. 2in., stationary; at Menind[ie] 25ft. 6in.; Pooncarie, 28ft. 9in., rising; at Wentworth, 21 [illegible] Murrumbidgee: At Gundagai, 9ft. 10in., rising; at Wagga, 1[illegible] 6in.; at Hay, 13ft. 5in., falling; at Balranald, 16ft. 10in. Murr[ay] At Albury, 9ft. 6in.; at Euston, 29ft. 9in.

ASTRONOMICAL MEMORANDA FOR OCTOBER 14.

Sun rises at 5.22, sets at 6.11; Moon, 3.42 a.m., 2.46 p.m.; Mer[cury], 6.15 a.m., 7.51 p.m.; Venus, 3.41 a.m., 3.49 p.m.; Ma[rs] 3.13 a.m., 2.5 p.m.; Jupiter, 6.27 a.m., 7.49 p.m.; Saturn, [illegible] a.m., 12.9 p.m. Full moon, October 2; new moon, October 17.
High water at Fort Denison, 5.29 a.m.; 6,5 p.m.

H. A. LENEHAN,
Acting Government Astronomer.

Stations.	Wt	Mx	Mn	Rn
Albury ..	b	71	45	0
Armidale	b	67	40	0
Balranald	b	93	48	0
Bathurst	b	69	35	0
Bendem'r	b	70	35	0
Bodalla ..	b	70	46	0
Bourke ..	b	87	51	0
Buncarra	b	—	36	0
C'md'n H.	b	71	55	0
C. St. Geo.	b	75	51	0
Carcoar ..	b	40	31	0
Casino ..	b	85	46	0
Cassilis ..	b	70	45	0
Clarence .	b	76	57	0
C'nd'b'lin	b	88	48	0
Cooma ..	n	72	31	0
Coonab'n.	b	78	34	0
Cowra ..	b	76	45	0
Cudg'llico	b	82	47	0
Deniliq'n.	b	82	41	0
Dubbo ..	b	77	37	0
Eden	b	62	47	0
Euston ..	b	86	35	0
Forbes ..	b	—	49	0
G'bo Isl'nd	b	58	52	0
Glen Inn's	b	70	41	0
Goulburn	b	66	40	0
Grafton ..	b	85	50	0
Gulgong .	b	72	33	0
Gunned'h	b	79	44	0
Hay	b	80	47	0
Inverell ..	b	71	39	0
Kiandra ..	n	68	27	0
Lismore .	b	83	49	0
Maitland .	b	79	50	0
M'n'ng H.	b	71	53	0
Marsdens.	b	76	52	0
Menindie.	b	83	52	0
Molong ..	b	62	32	0
M'r'ng'r'll	b	74	40	0
Moree ..	b	87	45	0
Moruya ..	b	70	47	0
Moss Vale	b	63	48	0
Mt. Hope	b	84	50	0
M. Vict'ria	b	67	45	0
Mudgee ..	b	79	32	0
M'rt'mb'h	b	76	40	0
M'rr'r'ndi	b	69	46	0
Mus'lbr'k	b	78	42	0
Narraori	b	91	50	0
Newcastle	b	76	58	0
Orange ..	b	63	39	0
Picton ..	b	70	43	0
P. M'q'rie	b	71	49	0
P. St'ph'n	b	70	51	0
Q'nbeyan	b	80	39	0
Quirindi	b	77	47	0
Singleton	b	74	54	0
SYDNEY ..	b	71	55	0
Taralga ..	b	66	43	0
Taree	b	79	51	0
T'nt'rfield	b	80	51	0
Wagga ..	b	78	36	0
Walcha ..	n	65	28	0
Walgett	b	69	48	0
Warialda	b	81	38	0
Warrah ..	b	73	42	0
W'ntw'rth	b	87	53	0
W'll'.g'ng	b	74	50	0
Young ..	b	87	39	0

SYDNEY OBSERVATORY.

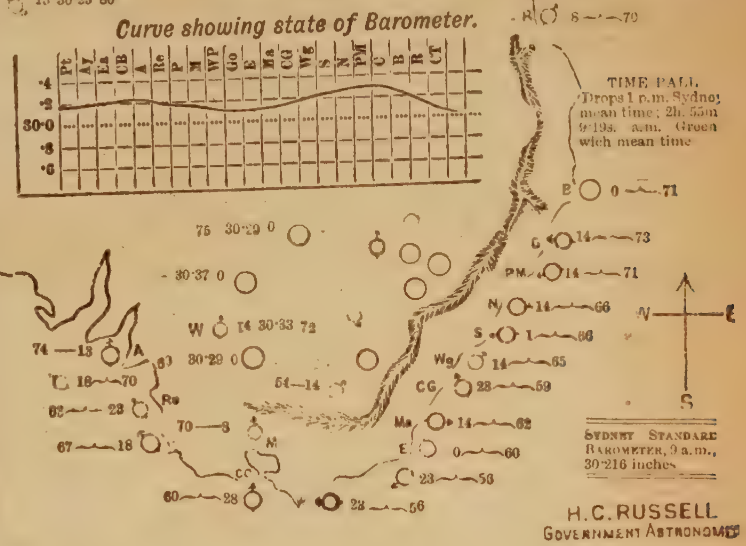
LATITUDE 33° 51' 41" S. LONGITUDE 10h. 4m. 50·81s. E.

MAGNETIC VARIATION, 9° 35' 37" E.

Average Annual Rainfall for 28 years .... 49·450
Average for 29 years from Jan. 1 to Sep. 30 1887... 41·210
Total Rainfall from Jan. 1, to Oct. 14 1887 ...... 43·949

Barometers corrected to 32° Fah. and Mean Sea Level

Fine, wind N. Cloudy, wind E. T. storm, wind S. Rain, wind W. If it is CALM, the symbol used without the arrow. Smooth sea. Heavy sea. Very heavy sea.



SYDNEY STANDARD BAROMETER, 9 a.m., 30·216 inches.

H. C. RUSSELL,
GOVERNMENT ASTRONOMER.

NOTES EXPLANATORY OF MAP.

In the list of stations the column headed W.T. gives the state of the weather at 9 a.m., b standing for blue sky; c, detached clouds; d, drizzling rain; f, fog; g, gloomy; h, hazy; m, misty; n, frosty; o, overcast; p, passing showers; r, rain; s, snow; t, thunder; u, threatening. The next column, M'x gives the maximum temperature for previous 24 hours. M'n the corresponding minimum temperature; R'n, the rain for the previous 24 hours. The symbols used in the map are explained on the margin. At each coast station the wind symbol is placed like a vane pointing to the direction from which the wind is coming. A clear circle with it means fine weather; a circle with bar, cloudy weather; and a black spot, raining. Next to this symbol are placed figures denoting the number of miles the wind is moving per hour; next, a symbol showing the state of the sea; and, lastly, figures denoting the shade temperature at 9 a.m. The barometer curve shows the state of barometers round the coast from Perth to Cooktown: Pt, Perth; Ay, Albany; Ea, Eucla; CB, Cape Borda; A, Adelaide; Re, Robe; P, Portland; M, Melbourne; W P, Wilson's Promontory; Go, Gabo; E, Eden; Ma, Moruya; C G Jervis Bay; Wg, Wollongong; S, Sydney; N, Newcastle; P M, Port Macquarie; C, Clarence River; B, Brisbane; R, Rockhampton; Ct, Cooktown. Inland the state of barometer is given in figures at Albury, Deniliquin, Wentworth, Menindie, Bourke, and Alice Springs. The barometer curve enables one at a glance to trace the depressions, beginning with Western Australia, and passing along eastwards; northerly winds preceding them, and southerly following.

The rainfall on Sundays or holidays, when this map is not published, is in all cases included in the quantities shown by the next following map.

9 A.M. OBSERVATIONS.

Western Australia.—Fine in N.W.; gloomy in S.W. and S. parts; light N.W. to N.E. winds; smooth sea. Extremes of barometers and temperature: Geraldton, 30·18; Albany, 30·05; Cossack, 89°; and Esperance Bay, 59°.

South Australia.—Generally fine and warm; rising temperature; light to fresh N.E. to N.W. winds; smooth sea. Thunderstorm last night in the northern parts of the Northern Territory. Extremes of barometers and temperature: Farina, 30·27; Eucla, 30·15 and 62°; Port Darwin, 85°.

Victoria.—Generally fine and warm, with light scattered clouds and light N. to W. winds and calms; smooth sea; squally, with moderate sea, in the straits. Extremes of barometers and temperature: Echuca, 30·31 and 70°; Wilson's Promontory, 30·13; Omeo, 59°.

Tasmania.—Fine weather, with light westerly winds and calms, and smooth to moderate sea. Extremes of barometers and temperature: Falmouth, 30·04 and 55°; Southport, 29·96 and 58°.

New Zealand.—Generally squally and showery; N.W. to S.W. winds. Barometers: In north, 29·70; to southward, 29·20.

New South Wales.—Generally fine and warm throughout; frosty at Walcha, Cooma, and Kiandra; light variable winds on the coast; calm inland; smooth sea. No rain has fallen during the last 24 hours. Extremes of barometers and temperature: Dubbo, 30·39; Gabo Island, 30·07; Bourke, 75°; and Cooma, 52°. For further particulars see map.

Queensland: Fine weather throughout, excepting places on the tropical coast line, where gloomy weather is reported, with thunderstorms and showers during previous night. Winds light, S. to S.E., with smooth to moderate sea. Extremes of barometers and temperature: Rockhampton, 30·30 and 70°; Cooktown, 30·10 and 79°.

3 P.M. OBSERVATIONS.

New South Wales.—Menindie, N.W., 14, fine, temperature 78°; Wentworth, N.W., 14, fine and warm, temperature 75°; Deniliquin, W., 14, fine and clear, temperature 78°; Eden, N.E., 14, fine, sea smooth, temperature 62°; Moruya, S.E., 14, fine, sea smooth, temperature 66°; Cape St. George, N.E., 28, fine, sea smooth, temperature 65°; Sydney, E.N.E., 12, fine, clear, and warm, sea smooth, temperature 72°; Newcastle, E., 14, fine, sea smoooth, temperature 69°; Port Macquarie, S.E., 28, fine, sea smooth, temperature 78°; Clarence River, S.E., 14, fine, sea smooth, temperature 75°; Walgett, calm, fine and warm, temperature 82°; Dubbo, S.W., 14, fine, temperature 69°; Goulburn, N.W., 14, fine, temperature 63°.

Victoria.—Portland, W., 23, fine, sea smooth, temperature 76°; Cape Otway, W.N.W., 23, fine, sea smooth, temperature 67°; Melbourne, N.W., 13, fine, temperature 79°; Cape Schanck, W., 8, fine, sea smooth, temperature 61°; Wilson's Promontory, W.S.W., 34, squally and fine, sea moderate, temperature 69°; Lakes Entrance, E., 13, cloudy, temperature 57°; Omeo, N.W., 18, fine, temperature 69°.

South Australia.—Adelaide, N.W., 8, fine, temperature 86°.

Queensland.—Townsville, S.E., 28, threatening, sea rough, temperature 76°; Mackay, S.E., 18, cloudy and threatening; Thargomindah, E., fine; Rockhampton, E.N.E., 18, fine, but cloudy, temperature 78°; Roma, E., 8, fine, temperature 84°; Cape Moreton, S.E., 8, fine, temperature 78°; Brisbane, N.E., 13, fine, temperature 80° Blackall, S.E, fine and warm; Boulia, S.E., 18, fine and warm.

HEIGHT OF RIVERS ABOVE SUMMER LEVEL.

Macintyre: At Mungindi, 3ft. 6in., stationary. Barwon: At Mogil Mogil, 3ft., stationary; at Walgett, 9ft., falling. Namoi: At Walgett, 3ft., stationary. Culgoa: At Goodooga, low. Darling: At Brewarrina, 10ft., falling; at Bourke, 20ft. 2in., falling; at Louth, 27ft. 9in., falling; at Tilpa, 33ft. 10in., falling; Wilcannia, 31ft. 3in.; at Menindie, 25ft. 6in.; Pooncarie, 22ft. 9in.; at Wentworth, 21ft. Murrumbidgee: At Gundagai, 8ft. 6in., falling; at Wagga, 11ft. 6in.; at Hay, 13ft., falling; at Balranald, 16ft. 10in. Murray: At Albury, 11ft.; at Euston, 22ft. 11in.

ASTRONOMICAL MEMORANDA FOR OCTOBER 15.

Sun rises at 5.21, sets at 6.12; Moon, 4.24 a.m., 3.54 p.m.; Mercury, 6.15 a.m., 7.54 p.m.; Venus, 3.39 a.m., 3.46 p.m.; Mars, 3.11 a.m., 2.4 p.m.; Jupiter, 6.24 a.m., 7.46 p.m.; Saturn, 1.47 a.m., 12.5 p.m. Full moon, October 2; new moon, October 17.

High water at Fort Denison, 6.34 a.m.; 7.3 p.m.

H. A. LENEHAN,
Acting Government Astronomer.

METEOROLOGICAL REPORTS AND MAP [illegible]

Stations.	W.T.	Mx	Mn	Rn.
Albury ..	b	78	50	0
Armidale	b	71	40	0
Balranald	b	99	54	0
Bathurst	b	76	37	0
Bendemi'r	b	75	36	0
Bodalla ..	b	71	43	0
Bourke ..	b	94	52	0
Bungarra	b	—	35	0
C'md'n H.	b	75	57	0
C.St.Geo.	b	70	52	0
Carcoar ..	b	64	38	0
Casino ..	b	89	45	0
Cassilis ..	b	75	49	0
Clarence .	b	82	57	0
C'nd'b'lin	b	91	54	0
Cooma ..	n	87	31	0
Coonab'n.	b	83	37	0
Cowra ..	b	91	52	0
Cudg'llico	b	86	48	0
Deniliq'n.	b	91	48	0
Dubbo ..	b	84	40	0
Eden	b	65	47	0
Euston ..	b	99	53	0
Forbes ..	b	—	48	0
G'bo Isl'nd	b	71	56	0
Glen Inn's	b	84	42	0
Goulburn	b	76	42	0
Grafton ..	b	82	56	0
Gulgong .	b	75	34	0
Gunned'h	b	84	47	0
Hay	b	88	53	0
Inverell. .	b	77	42	0
Kiandra. .	b	71	38	0
Lismore .	b	88	53	0
Maitland .	b	82	51	0
M'n'ng H.	h	70	47	0
Marsdens.	b	85	56	0
Menindie.	b	89	58	0
Molong ..	b	71	32	0
M'r'ng'r'll	b	82	46	0
Moree ..	b	92	52	0
Moruya ..	b	69	49	0
Moss Vale	b	71	50	0
Mt. Hope	b	92	60	0
M. Vict'ria	b	77	45	0
Mudgee ..	b	84	37	0
M'rr'mb'h	b	82	32	0
M'rr'r'ndi	b	73	44	0
Mus'lbr'k	b	82	44	0
Narrabri	b	85	49	0
Newcastle	h	75	58	0
Orange ..	b	63	41	0
Picton ..	b	80	39	0
P. M'q'rie	b	66	47	0
P. St'ph'n	b	64	46	0
Q'nbeyan	b	70	39	0
Quirindi	b	83	50	0
Singleton	b	83	54	0
Sydney ..	h	74	54	0
Taralga ..	b	73	40	0
Taree	b	83	51	0·01
T'nt'rfield	b	70	53	0
Wagga ..	b	84	40	0
Walcha ..	n	71	31	0
Walgett	b	62	51	0
Warialda	b	85	41	0
Warrah ..	b	82	45	0
W'ntw'rth	b	93	58	0
W'll'ng'ng	b	76	49	0
Young ..	b	88	42	0

SYDNEY OBSERVATORY.

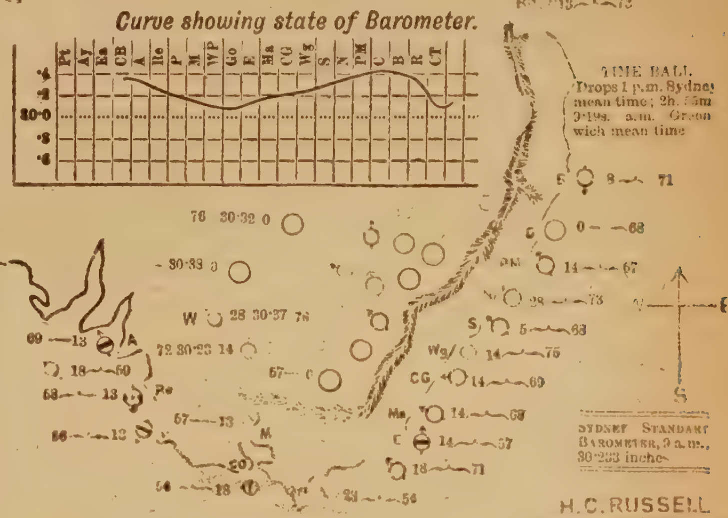
Latitude 33° 51' 41" S. Longitude 10h 4m. 50·81s. E.

Magnetic Variation, 9° 35' 37" E.

Average Annual Rainfall for 28 years .... 49·490
Average for 29 years from Jan. 1 to Sep. 30 1887.. .. 41·210
Total Rainfall from Jan. 1, to Oct 15 1887 .... .. 48·951

Barometers corrected to 32° Fah. and Mean Sea Level

Fine, wind N. [illegible] Cloudy [illegible]
T. storm, [illegible] wind S. [illegible]
If it is calm, the symbol used without th[illegible]
[illegible]
[illegible] Heavy sea.
[illegible] Very heavy sea.



H. C. RUSSELL,
Government Astronomer.

NOTES EXPLANATORY OF MAP.

In the list of stations the column headed W.T. gives the state of the weather at 9 a.m., b standing for blue sky; c, detached clouds; d, drizzling rain; f, fog; g, gloomy; h, hazy; m, misty; n, frosty; o, overcast; p, passing showers; r, rain; s, snow; t, thunder; u, threatening. The next column, Mx gives the maximum temperature for previous 24 hours. M'n the corresponding minimum temperature; R'n, the rain for the previous 24 hours. The symbols used in the map are explained on the margin. At each coast station the wind symbol is placed like a vane pointing to the direction from which the wind is coming. A clear circle with it means fine weather; a circle with bar, cloudy weather; and a black spot, raining. Next to this symbol are placed figures denoting the number of miles the wind is moving per hour; next, a symbol showing the state of the sea; and, lastly, figures denoting the shade temperature at 9 a.m. The barometer curve shows the state of barometers round the coast from Perth to Cooktown: Pt, Perth; Ay, Albany; Ea, Eucla, CB, Cape Borda; A, Adelaide; Re, Robe; P, Portland, M, Melbourne; W P, Wilson's Promontory; Go, Gabo; E, Eden; Ma, Moruya; C G Jervis Bay; Wg, Wollongong; S, Sydney; N, Newcastle; P M, Port Macquarie; C, Clarence River; B, Brisbane; R, Rockhampton; Ct, Cooktown. Inland the state of barometer is given in figures at Albury, Deniliquin, Wentworth, Menindie, Bourke, and Alice Springs. The barometer curve enables one at a glance to trace the depressions, beginning with Western Australia, and passing along eastwards; northerly winds preceding them, and southerly following.

The rainfall on Sundays or holidays, when this map is not published, is in all cases included in the quantities shown by the next following map.

9 A.M. OBSERVATIONS.

South Australia.—Generally fine and warm, but the temperature is lower than yesterday; clear inland, light scattered clouds on and near the coast, gloomy in S.E. parts; winds are generally light or calm, northerly inland; S.W. to S.E. winds and smooth sea along the coast. Extremes of barometers and temperature: Port Augusta, 30·35; Eucla, 30·11; Alice Springs, 85°; and Cape Northumberland, 54°.

Victoria.—Fine, but generally cloudy, and in parts foggy; light to fresh N.W. to S.W. winds, smooth sea, misty and squally in the straits. Extremes of barometers and temperature: Echuca, 30·29 and 76°; Lakes Entrance, 30·06; and Cape Otway, 54°.

Tasmania.—Fine, with light scattered clouds, light westerly winds, smooth sea, but rough off Southport. Extremes of barometers and temperature: Circular Head, 30·04; Hobart, 29·88 and 59°; Low Head, 55°.

New Zealand.—Showery in extreme south, fine to northward; light to fresh N.W. to S.W. winds. Barometers: In north, 30°; over centre, 29·70; in south, 29·50.

Queensland.—Fine in south, cloudy and gloomy in north and N.E. parts; thunderstorm at Burketown; light to fresh N.E. to S.E. winds; smooth to moderate sea. Rainfall: In north, from 0·05 to 0·28 inch. Extremes of barometers and temperature: Rockhampton, 30·36; Thursday Island, 30·05 and 85°; Roma, 70°.

New South Wales.—Fine, clear, warm weather throughout the colony; hot winds at places; light variable, chiefly north to westerly, winds and calms, smooth sea. Taree, with 0·01 inch, is the only station reporting rain. Extremes of barometers and temperature: Clarence, 30·39; Gabo, 30·02; Hay, 77; and Bathurst, 56°. For further particulars see map.

3 P.M. OBSERVATIONS.

New South Wales.—Menindie, calm, clear, and hot, temperature 80°; Deniliquin, N.W., 14, fine, temperature 78°; Moruya, N., 14, fine, sea smooth, temperature 90°; Cape St. George, calm, sultry, sea smooth, temperature 87°; Newcastle, W., 14, fine, sea smoooth, temperature 87°; Port Macquarie, N.E., 28, fine, sea smooth, temperature 75°; Clarence River, N.E., 28, fine, sea smooth, temperature 74°; Walgett, S., fine, temperature 82°; Dubbo, N.E., 14, fine, temperature 74°; Goulburn, W., fine, temperature 69°.

Queensland.—Townsville, S.E., 23, cloudy, slight sea, temperature 76°; Mackay, calm, cloudy; Rockhampton, E., 18, fine, temperature 77°; Cape Moreton, N.E., 8, fine, but hazy, temperature 73°; Hughenden, N.E., fine; Boulia, S.E., 18, fine; Blackall, calm, fine, and clear; Thargomindah, N.E., fine.

HEIGHT OF RIVERS ABOVE SUMMER LEVEL.

Macintyre: At Mungindi, 3ft. 6in., falling. Barwon: At Mogil Mogil, 2ft. 4in., falling; at Walgett, 8ft., falling. Namoi: At Walgett, 3ft., stationary. Culgoa: At Goodooga, low. Darling: At Brewarrina, 10ft., falling; at Bourke, 18ft., falling; at Louth, 20ft. 10in., falling; at Tilpa, 33ft. 9in., falling; Wilcannia, 31ft. 5in., rising; at Menindie, 22ft. 6in.; at Pooncarie, 22ft. 9in.; at Wentworth, 21ft 1in. Murrumbidgee: At Gundagai, 8ft., falling; at Wagga, 11ft.; at Hay, [illegible]ft., falling; at Balranald, 16ft. 10in. Murray: At Albury, 11ft. 5in.; at Euston, 23ft.

ASTRONOMICAL MEMORANDA FOR OCTOBER 17.

Sun rises at 5.18, sets at 6.13; Moon, 5.47 a.m., 6.13 p.m.; Mercury, 6.14 a.m., 7.59 p.m.; Venus, 3.34 a.m., 3.39 p.m.; Mars, 3.6 a.m., 2.2 p.m.; Jupiter, 6.18 a.m., [illegible] p.m.; Saturn, 1.[illegible] a.m., [illegible] p.m. [illegible]
High water at Fort Denison, [illegible]
P. A. LENEHAN,
Acting Government Astronomer.

METEOROLOGICAL REPORTS

Stations.	wt	Mx	Mn	Rn.
Albury ..	b	86	52	0
Armidale	b	79	[illegible]	0
Balranald	b	88	[illegible]	0
Bathurst	b	82	[illegible]	0
Bendem'r	b	8[illegible]	4[illegible]	0
Bodalla ..	b	72	50	0
Bourke ..	b	101	56	0
Buncarra	b	--	54	0
C'md'n H.	b	81	57	0
C. St. Geo.	b	74	52	0
Carcoar ..	b	70	36	0
Casino ..	c	96	52	0
Cassilis ..	b	75	54	0
Clarence ..	b	89	61	0
C'nd'[illegible]	[illegible]	9[illegible]	[illegible]	0
Cooma ..	[illegible]	[illegible]	[illegible]	0
[illegible]	[illegible]	[illegible]	[illegible]	0
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Deniliquin..	[illegible]	97	[illegible]	0
Dubbo ..	b	[illegible]	48	0
Eden	b	7[illegible]	[illegible]	0
Euston ..	b	96	54	0
Forbes ..	b	-	49	0
G'bo Isl'nd	b	64	53	0
Glen Inn's	b	93	43	0

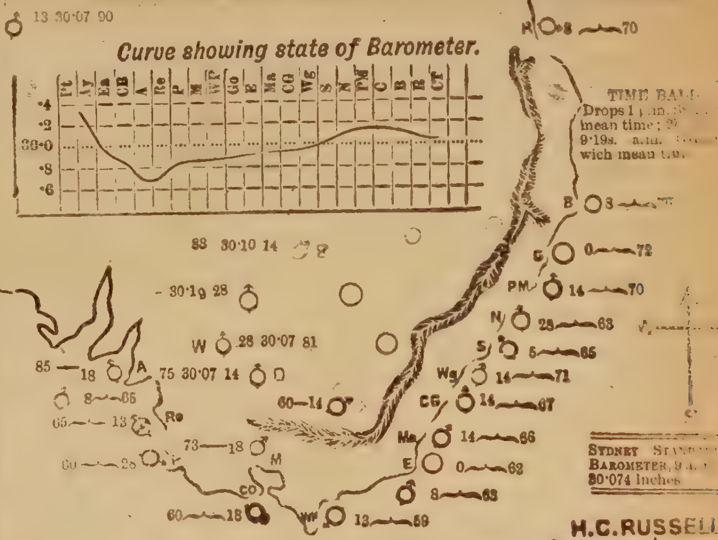
23—65 EUCLA

Stations.	wt	Mx	Mn	Rn.
Goulburn	b	88	45	0
Grafton ..	b	96	57	0
Gulgong .	b	80	38	0
Gunned'h	b	93	51	0
Hay	b	88	58	0
Inverell ..	b	75	50	0
Kiandra ..	b	81	32	0
Lismore .	b	93	63	0
Maitland .	b	76	55	0
M'n'ng H.	b	68	49	0
Marsdens.	b	88	60	0
Menindie.	b	92	64	0
Molong ..	b	81	40	0
M'r'ng'r'll	b	84	53	0
Moree ..	b	99	57	0
Moruya ..	b	71	50	0
Moss Vale	b	72	50	0
Mt. Hope	b	91	41	0
M. Vict'ria	b	80	60	0
Mudgee ..	b	92	42	0
M'r'mb'h	b	84	49	0
M'rr'r'ndi	b	84	56	0
Mus'lb'k	b	82	43	0
Narrabri	b	94	50	0
Newcastle	b	68	53	0
Orange ..	b	76	41	0
Picton ..	b	74	[illegible]	0
P. M'q'rie	b	71	50	0
P. S'ph'n	b	7[illegible]	[illegible]	0
Q'rb'eyan	b	[illegible]	[illegible]	0
C[illegible]	b	91	47	0
S[illegible]	b	[illegible]	[illegible]	0
[illegible]	b	70	[illegible]	0
T[illegible]	b	87	50	0
Taree	b	80	54	0
T'[illegible]	b	90	58	0
Wagga ..	b	92	44	0
Wa[illegible]	b	80	31	0
Wa[illegible]	b	92	49	0
W[illegible]da	b	93	49	0
W[illegible] ..	b	90	53	0
Wentw'rth	b	91	60	0
Wh'n'g	b	75	53	0
Young ..	b	94	46	0

SYDNEY OBSERVATORY.

LATITUDE 33° 51' 41" S. LONGITUDE 10h. 4m. 50·81s. E.
MAGNETIC VARIATION, 9° 35' 37" E.
Average Annual Rainfall for 28 years .... 49·489
Average for 29 years from Jan. 1 to Sep. 30 1887 ..... 41·210
Total Rainfall from Jan. 1, to Oct. 17 1887 ...... 48·952
Barometers corrected to 32° Fah. and Mean Sea Level

Fine, wind N. Cloudy, wind E. T. storm, wind S. Rain, wind W.
If it is CALM, the symbol used without the arrow.
Smooth sea.
Heavy sea.
Very heavy sea.



SYDNEY STATION
BAROMETER, 9 a.m.
30·074 Inches

H. C. RUSSELL,
GOVERNMENT ASTRONOMER.

NOTES EXPLANATORY OF MAP.

In the list of stations the column headed W.T. gives the state of the weather at 9 a.m., b standing for blue sky; c, detached clouds; d, drizzling rain; f, fog; g, gloomy; h, hazy; m, misty; n, frosty; o, overcast; p, passing showers; **r, rain; s, snow; t, thunder;** u, threatening. The next column. M'x gives the **maximum temperature for previous 24 hours.** M'n the corresponding minimum temperature; **R'n, the rain for the previous 24 hours.** The symbols used in the map are explained on the margin. **At each coast station** the wind symbol is placed like a vane pointing to the direction from which the wind is coming. A clear circle with it means fine weather; **a circle with bar, cloudy** weather; and a black spot, raining. Next to this symbol are placed figures denoting the number of miles the wind is moving per hour; next, a symbol showing the state of the sea; and, lastly, **figures denoting the shade temperature at 9 a.m. The barometer** curve shows the state of barometers round the coast from **Perth to Cooktown:—Pt,** Perth; Ay, Albany; **Ea, Eucla; CB, Cape Borda; A, Adelaide; Re, Robe; P, Portland;** M, Melbourne; W P, Wilson's Promontory; Go, Gabo; E, Eden; **Ma, Moruya; C G Jervis** Bay; Wg, Wollongong; S, Sydney; N, Newcastle; P M, Port Macquarie; C, Clarence River; B, Brisbane; R, Rockhampton; Ct, Cooktown. Inland the state of barometer is given in figures at Albury, Deniliquin, Wentworth, Menindie, Bourke, and Alice Springs. The barometer curve enables one at a glance to trace the depressions, beginning with Western Australia, and passing along eastwards; northerly winds preceding them, and southerly following.

The rainfall on Sundays or holidays, **when this map is not published, is in all cases included in the quantities shown by the next following map.**

9 A.M. OBSERVATIONS.

Western Australia.—Generally unsettled: in parts squally and showery; fresh S.E. to S.W. winds; smooth sea, but rough off the Gascoyne River. Extremes of barometers and temperature: Albany, 30·37 and [illegible] [illegible] 30·19, [illegible], 89°.

South Australia.—[illegible] [illegible], hot, and dusty; cloudy and gloomy on and near [illegible] [illegible] north [illegible] N.E. winds; smooth sea. Extremes of barometers and temperature: Eucla, 30·12 and 65°; Robe [illegible] [illegible] Port Augusta, 94°.

Victoria.—Fine, with [illegible] [illegible] generally; fresh N. to E. winds; smooth to moderate sea. Extremes of barometers and temperature: Echuca, 30·07; Hamilton, 29·80; Ballarat, 76°; and Omeo, 65°.

Tasmania.—Unsettled and more or less cloudy, light easterly winds, smooth sea. Extremes of barometers and temperature: Low Heads, 29·90; Hobart, 29·78 and [illegible]; Southport, 54°.

New Zealand.—Fine generally, light to fresh N.W. to S.W. winds. Barometers: In north, 29·80; in south, 29·20.

Queensland.—Generally fine, but more or less cloudy, with N.E. to S.E. winds in northern districts, and light variable winds in south, with smooth sea. Extremes of barometers and temperature: Rockhampton, 30·16 and [illegible]; Normanton, 30·01.

New South Wales.—Fine, clear, warm weather throughout; light, variable, chiefly northerly winds or calms; smooth sea; no rain has fallen during the last [illegible] hours. Exceptionally high temperature at Bourke, [illegible] 101°. Extremes of barometers and temperature: Menindie, 30·19; Gabo, 29·93; Bourke, 83; and Cooma, [illegible]. For further particulars see map.

3 P.M. OBSERVATIONS.

South Australia.—Adelaide, fine, S.W., 8, temperature 71°.

Victoria.—Portland, E., 8, fine, sea smooth, temperature 65°; Cape Otway, E.N.E., 28, cloudy, sea smooth, temperature 61°; Melbourne, N.N.E., 18, cloudy, temperature 70°; Cape Schanck, E., 13, fine but cloudy, sea smooth, temperature 60°; Wilson's Promontory, N.[illegible], 13, [illegible] cloudy, sea smooth, temperature 6[illegible]; Lakes [illegible], [illegible], [illegible], temperature 6[illegible]; Omeo, N., [illegible] temperature [illegible].

New South Wales.—M[illegible], [illegible], [illegible], and hot, temperature 84°; Wentworth, N.W., 28, fine and warm, temperature 78°; Deniliquin, N., 28, fine, clear, and hot, temperature [illegible]; Moruya, N.E., 28, fine, sea smooth, temperature 69°; Cape St. George, N.E., 42, fine, sea smooth, temperature 66°; Sydney, [illegible], 10, fine, warm, and hazy, sea smooth, temperature 72°; Newcastle, N.E., 28, fine, sea smooth, temperature 75°; Port Macquarie, N.E., 28, fine and clear, sea smooth, temperature 7[illegible]; Clarence River, N.E., 14, fine, sea smooth, temperature 77°; Walgett, calm, fine, hot, temperature 89°; Dubbo, N.W., 14, fine, temperature 79°; Goulburn, N.W., 14, fine, temperature 70°.

Queensland.—Townsville, S.E., 8, hazy, sea smooth, temperature 75°; Mackay, calm, cloudy and dull; Rockhampton, E.N.E., 13, overcast, temperature 77°; Cape Moreton, E., 13, cloudy and misty, temperature 75°; Brisbane, N.E., 13, overcast and threatening, temperature 78°; Hughenden, S.E., 8, cloudy and cool; Blackall, N.W., 14, cloudy; Thargomindah, N.E., fine and hot; Roma, N.E., 8, fine and sultry, temperature 89°.

HEIGHT OF RIVERS ABOVE SUMMER LEVEL.

Macintyre: At Mungindi, 3ft. 6in. Barwon: At Mogil Mogil, 2ft. 9in., rising; at Walgett, 7ft., falling. Namoi: At Walgett, 3ft., stationary. Culgoa: At Goodooga, [illegible]. Darling: At Brewarrina, 8ft., falling; at Bourke, 16ft. 10in., falling; at Louth, 23ft. 6in., falling fast; at Tilpa, 35ft. [illegible], falling; Wilcannia, 31ft. 5in.; at Menindie, 22ft. 7in.; at Pooncarie, 22ft. 9in., rising; at Wentworth, 21ft. 2in. Murrumbidgee: At Gundagai, 7ft., falling; at Wagga, 10ft., falling; at Hay, 13ft.; at Balranald, 16ft. 10in. Murray: At Albury, 9ft. 11in.; at Euston, 23ft. 2in.

ASTRONOMICAL MEMORANDA FOR OCTOBER 18.

Sun rises at 5.17, sets at 6.14; Moon, 6.30 a.m., 7.24 p.m.; Mercury, 7.14 a.m., 8.2 p.m.; Venus, 3.31 a.m., 3.36 p.m.; Mars, 3.4 a.m., 2.1 p.m.; Jupiter, 6.15 a.m., 7.37 p.m.; Saturn, [illegible] a.m., 1.54 a.m. Full moon, October 2; new moon, October 1[illegible]. High water at Fort Denison, October 18: 9.1 a.m., 9.23 p.m.

H. A. LENEHAN,
Acting Government Astronomer.

METEOROLOGICAL REPORTS AND MAP FOR OCTOBER ..., 18..

Stations.	wt	Mx	Mn	Rn.
Albury ..	g	87	59	0
Armidale	b	80	54	0
Balranald	g	104	54	0
Bathurst	b	89	49	0
Bendem'r	b	85	46	0
Bodalla ..	b	75	56	0
Bourke ..	b	105	69	0
Buncarra	b	--	52	0
C'md'n H.	b	76	65	0
C. St. Geo.	b	76	62	0
Carcoar ..	b	77	41	0
Casino ..	b	94	61	0
Cassilis ..	b	78	59	0
Clarence .	c	78	64	0
C'nd'b'lin	b	97	56	0
Cooma ..	b	86	50	0
Coonab'n.	b	95	46	0
Cowra ..	b	94	—	0
Cudg'llico	b	84	61	0
Deniliq'n.	g	99	53	0
Dubbo ..	b	95	49	0
Eden	b	99	56	0
Euston ..	g	104	55	0
Forbes ..	b	—	48	0
G'bo Isl'nd	h	76	60	0
Glen Inn's	b	86	55	0
Goulburn	b	[illegible]	[illegible]	0
Grafton ..	c	95	62	0
Gulgong .	b	85	48	0
Gunned'h	b	95	51	0
Hay . ..	b	99	59	0
Inverell ..	b	82	55	0
Kiandra ..	g	74	50	0
Lismore .	b	90	65	0
Maitland .	b	85	62	0
M'n'ng H.	b	76	53	0
Marsdens.	b	92	65	0
Menindie.	g	100	62	0
Molong ..	b	90	46	0
M'r'ng'r'll	b	91	57	0
Moree ..	b	99	62	0
Moruya ..	b	82	63	0
Moss Vale	b	80	62	0
Mt. Hope	b	99	71	[illegible]
M. V'ct'ria	b	86	63	0
Mudgee ..	b	93	44	0
M'rr'mb'h	b	87	57	0
M'rr'r'ndi	b	84	42	0
Mus'lbr'k	b	87	52	0
Narrabri	h	96	65	0
Newcastle	b	78	61	0
Orange .	b	78	53	0
Picton ..	c	83	48	0
P. M'q'rie	h	75	61	0
P. St'ph'n	b	80	56	0
Q'nbeyan	b	66	47	0
Quirindi	b	92	51	0
Singleton	b	89	58	0
SYDNEY .	b	82	60	0
Taralga ..	b	83	53	0
Taree	b	86	58	0
T'nt'rfield	b	88	41	0
Wagga ..	[illegible]	93	57	0
Walcha ..	b	81	43	0
Walgett	c	96	70	0
Warialda	b	93	54	0
Warrah ..	b	91	55	0
W'ntw'rth	c	104	58	0
W'll'ng'ng	b	81	79	0
Young ..	b	90	53	0

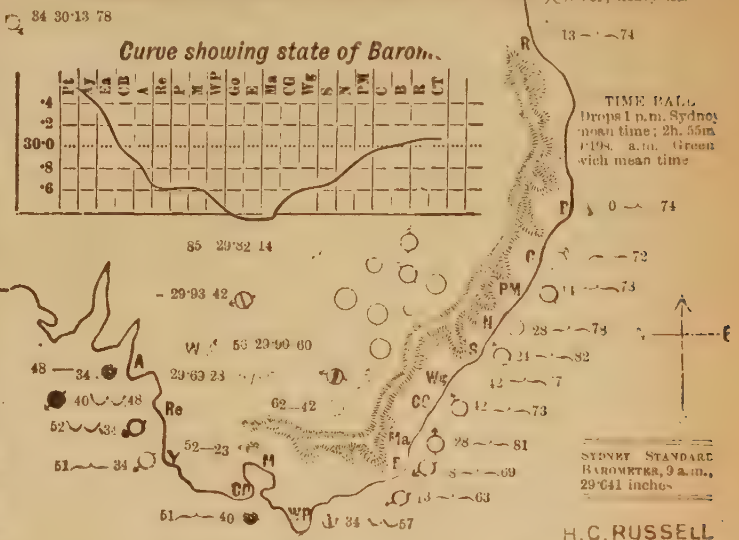
SYDNEY OBSERVATORY.

LATITUDE 33° 51' 41" S. LONGITUDE 10h. 4m. 50·81s. E.
MAGNETIC VARIATION, 9° 35' 37" E.

Average Annual Rainfall for 28 years .... 49·489
Average for 29 years from Jan. 1 to Sep. 30 1837 .. 41·210
Total Rainfall from Jan. 1, to Oct. 18 1887 .... 48·952

Barometers corrected to 32° Fah. and Mean Sea Level

Fine, wind N. ... T. storm, wind S. ...
If it is calm, the symbol is used without the arrow
Smooth sea.
Heavy sea.
Very heavy sea.



TIME BALL
Drops 1 p.m. Sydney mean time; 2h. 55m. 1·19s. a.m. Greenwich mean time

SYDNEY STANDARD BAROMETER, 9 a.m., 29·641 inches

H. C. RUSSELL
GOVERNMENT ASTRONOMER

NOTES EXPLANATORY OF MAP.

In the list of stations the column headed W.T. gives the state of the weather at 9 a.m., b standing for blue sky; c, detached clouds; d, drizzling rain; f, fog; g, gloomy; h, hazy; m, misty; n, frosty; o, overcast; p, passing showers; r, rain; s, snow; t, thunder; u, threatening. The next column, M'x gives the maximum temperature for previous 24 hours. M'n the corresponding minimum temperature. R n, the rain for the previous 24 hours. The symbols used in the map are explained on the margin. At each coast station the wind symbol is placed like a vane pointing to the direction from which the wind is coming. A clear circle with it means fine weather; a circle with bar, cloudy weather; and a black spot, raining. Next to this symbol are placed figures denoting the number of miles the wind is moving per hour; next, a symbol showing the state of the sea; and, lastly, figures denoting the shade temperature at 9 a.m. The barometer curve shows the state of barometers round the coast from Perth to Cooktown: Pt, Perth; Ay, Albany; Ea, Eucla, CB, Cape Borda, A, Adelaide; Re, Robe; P, Portland, M, Melbourne; W P, Wilson's Promontory; Go, Gabo; E, Eden; Ma, Moruya; C C Jervis Bay; Wg, Wollongong; S, Sydney, N, Newcastle; P M, Port Macquarie; C, Clarence River; B, Brisbane; R, Rockhampton; Ct, Cooktown. Inland the state of barometer is given in figures at Albury, Deniliquin, Wentworth, Menindie, Bourke, and Alice Springs. The barometer curve enables one at a glance to trace the depressions, beginning with Western Australia, and passing along eastwards; northerly winds preceding them, and southerly following.

The rainfall on Sundays or holidays, when this map is not published, is in all cases included in the quantities shown by the next following map.

9 A.M. OBSERVATIONS.

Western Australia.—Fine in north and N.W. parts; cloudy and unsettled in south; light easterly winds; smooth sea. Extremes of barometers and temperature: Albany, 30·57 and 57.; Carnarvon, 30·00 and 88°.

South Australia.—Generally more or less cloudy and squally; showery and cloudy on the coast; fresh to strong W. to S.W. winds, rough sea; light but partial rains have fallen south of Port Augusta. Extremes of barometers and temperature: Eucla, 30·35; Cape Northumberland, 29·60 and 52°; Port Darwin, 87°.

Victoria.—Generally cloudy and squally, with showers of rain and hail; fresh to strong N.W. to S.W. winds; moderate to rough sea; light rains have fallen generally, chiefly near the coast. Extremes of barometers and temperature: Echuca, 29·28; Wilson's Promontory, 29·48; Omeo, 66°; and Ballarat, 49°.

Tasmania.—More or less cloudy, and unsettled; light north to westerly winds and calms, moderate to rough sea. Light rains have fallen generally. Very o v ba ome ers. Extremes of barometers and temperature: Circular Heads, 29·41 and 49°. Hobart, 29·19, and Falmouth, 64°.

New Zealand.—Showery in north; fine in Cook's Strait; gloomy in south; fresh to strong W. to S.W. winds. Barometers: In north, 30·00; over cent e, 29·60; in south, 29·50.

Queensland.—More or less cloudy generally; fierce hot northerly winds in south parts; N.E. to S.E. winds in north, smooth sea. Light rains fell at Port Douglas, and Aramac during the night. Extremes of barometers and temperature: Rockhampton, 30·05; Roma, 29·91; Normanton, 85°; and Cape Moreton 71°.

New South Wales.—Cloudy, gloomy, and threatening on the S.W. and southern borders; over the remainder of the colony fine, with light scattered clouds, and hazy; generally very warm, hot winds at places; winds are fresh from N. to W. and S.W.; the sea smooth. Extremes of barometers and temperature:—Menindie, 29·93; Eden, 29·38; Bourke, 85°; and Kiandra, 57°. (For further particulars see map).

3 P.M. OBSERVATIONS.

Victoria.—Portland, W., 65, cloudy, sea smooth, temperature 54°; Cape Otway, W.N.W., 40, squally and misty, sea rough, temperature 53°; Melbourne, W.S.W., 13, cloudy, temperature 56°; Cape Schanck, W.N.W., 34, overcast and misty, sea rough, temperature 58°; Wilson's Promontory, W., 34, overcast, with fierce squalls, sea rough, temperature 52°; Lakes Entrance, W.N.W., 34, showery, and squally and gloomy, temperature 63°; Omeo, N., 13, overcast, fine rain, temperature 56°.

South Australia.—Adelaide, W., 28, fine, but cloudy and squally, temperature 59°.

New South Wales.—Menindie, S.W., 42, fine, but cloudy, and cool, temperature 71°; Wentworth, W., 28 fine, temperature 64°; Deniliquin, W., 28, fine, but cloudy temperature 72°; Eden, E., 28, fine, sea smooth, temperature 68°; Moruya, S., 42, fine, but cloudy, sea smooth, temperature 64°; Cape St. George, W., 56, fine, and very sultry, sea moderate, temperature 81°; Sydney, N.W., 24, fierce hot wind, scattered clouds, sea smooth, temperature 94°; Newcastle, N., 56, fine, sea smooth, temperature 93°; Port Macquarie, N.E., 42, fine and hazy, sea smooth, temperature 77°; Clarence River, N.E., 42, fine and hazy, sea smooth, temperature 79°; Dubbo, N.W., 42, fine, temperature 81°; Goulburn, N.W., 14, fine, temperature 74°.

Queensland.—Townsville, S.E., 13, fine, sea smooth, temperature 79°; Mackay, N.E., fresh; Rockhampton, N.N.E., 18, cloudy; Brisbane, N., 28, fine, temperature 80°; Hughenden, S.W., overcast and threatening; Boulia, S.W., strong, and very hot; Blackall, calm, and fine; Thargomindah, N.W., strong, hot; Roma, N.N.W., 8, fine, temperature 92°.

HEIGHT OF RIVERS ABOVE SUMMER LEVEL.

Macintyre: At Yetman, low; at Mungindi, 2ft. 6in., stationary. Barwon: At Mogil Mogil, 3ft., rising; at Walgett, 6ft. 6in., falling. Namoi: At Walgett, 3ft., stationary. Culgoa: At Goodooga, low. Darling: At Brewarrina, 7ft., falling; at Bourke, 13ft., falling; at Louth, 21ft., falling; at Tilpa 32ft. 6in., falling; Wilcannia, 31ft. 6in., rising; at Menindie, 25ft.; at Wentworth, 21ft. 2in. Murrumbidgee: At Wagga, 9ft. 6in.; at Balranald, 16ft. 10in. Murray: At Albury, 10ft.; at Euston, 23ft. 3in.

ASTRONOMICAL MEMORANDA FOR OCTOBER 19.

Sun rises at 5.16, sets at 6.15; Moon 7.15 a.m., 8.33 p.m.; Mercury, 6.13 a.m. 8.5 p.m.; Venus, 3.29 a.m. 3.33 p.m.; Mars, 3.2 a.m., 2.0 p.m.; Jupiter, 6.12 a.m., 7.34 p.m.; Saturn, 1.32 a.m., 11.50 a.m. Full moon, October 2; new moon, October 17. High water at Fort Denison, October 19: 9.45 a.m., 10.6 p.m.

H. A. LENEHAN,
Acting Government Astronomer.

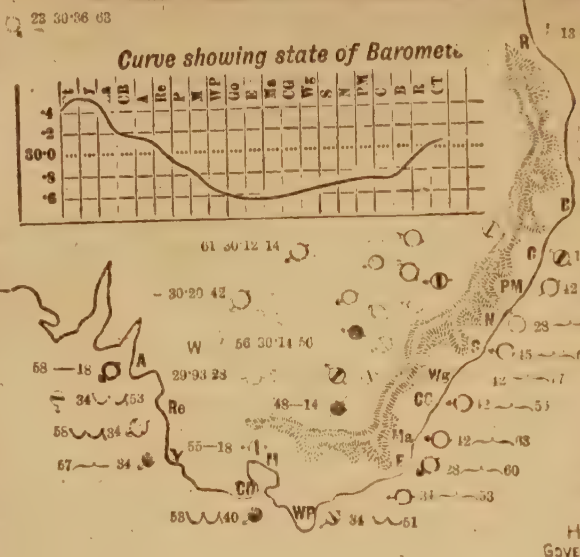
Stations.	wt	Mx	m	Rn.
Albury ..	r	67	47	0·10
Armidale	b	51	52	0
Balranald	o	88	42	0
Bathurst	c	87	42	0
Bendem'r	g	82	40	0·52
Bodalla ..	g	94	48	0
Bourke ..	b	102	49	0
Buncarra	g	61	81	0
C'md'n H.	b	82	64	0·30
C. St. Geo.	b	96	51	0
Carcoar ..	g	78	35	0·04
Casino ..	o	97	67	0
Cassilis ..	b	85	56	0·16
Clarence .	c	80	65	0
C'nd'b'lin	o	97	45	0
Cooma ..	c	79	37	0·03
Coonab'n.	b	90	47	0·19
Cowra ..	g	84	49	0·07
Cudg'llico	b	91	46	0
Deniliq'n.	c	75	43	0
Dubbo ..	b	97	46	0
Eden	b	73	48	0
Euston ..	b	70	44	0
Forbes ..	c	—	47	0·02
G'bo Isl'nd	b	62	50	0·01
Glen Inn's	u	86	51	0·20
Goulburn	b	84	39	0
Grafton ..	c	96	69	0
Gulgong .	o	88	45	0
Gunned'h	b	81	52	0·25
Hay ..	c	89	48	0
Inverell ..	o	85	60	0
Kiandra ..	–	—	—	–
Lismore .	b	95	73	0
Maitland .	b	95	61	0·12
M'n'ng H.	b	82	60	0·17
Marsdens.	o	82	51	0·01
Menindie.	b	74	51	0
Molong ..	–	—	—	–
M'r'ng'r'll	c	82	50	0·07
Moree ..	b	94	58	0·04
Moruya ..	b	97	49	0
Moss Vale	b	82	47	0
Mt. Hope	b	79	46	0
M. V ct'ria	c	83	37	0
Mudgee ..	c	95	45	0·07
M'rr'mb'h	c	73	47	0
M'rr'r'ndi	b	86	55	0·30
Mus'lbr'k	b	94	54	0·13
Narrabri	b	94	52	0·12
Newcastle	b	95	58	0·10
Orange .	c	80	42	0
Picton ..	b	90	53	0
P. M'q'rie	b	77	59	0·03
P. St'ph'n	b	93	54	0·41
Q'nbeyan	c	79	31	0
Quirindi	b	89	54	0·43
Singleton	b	93	62	0·15
SYDNEY .	b	94	68	0·05
Taralga ..	c	80	48	0
Taree	b	94	66	0·07
T'nt'rfield	b	88	46	0·04
Wagga ..	c	76	42	0·10
Walcha ..	o	82	43	0·41
Walgett	b	94	52	0·28
Warialda	b	93	52	0·14
Warrah .	c	86	51	0·40
W'ntw'rth	c	69	49	0
W'll'ng'ng	b	81	59	0
Young ..	r	93	43	0·09

SYDNEY OBSERVATORY.

LATITUDE 33° 51' 41" S. LONGITUDE 10h. 4m. 50·81s. E.
MAGNETIC VARIATION, 9° 35' 37" E.

Average Annual Rainfall for 28 years .... 49·489
Average for 29 years from Jan. 1 to Sep. 30 1887 .... 41·210
Total Rainfall from Jan. 1, to Oct. 19 1887 ...... 49·002

Barometers corrected to 32° Fah. and Mean Sea Level



Fine, wind N. Rain, wind S. Thunderstorm, wind W.

If it is CALM, the symbol used without the arrow.

Smooth sea. Heavy sea. Very heavy sea.

TIME BALL
dropped 1 p.m. Sydney mean time; 2h. 55m 7·19s. a.m. Greenwich mean time.

SYDNEY STANDARD BAROMETER, 9 a.m., 29·708 inches.

H. C. RUSSELL,
GOVERNMENT ASTRONOMER.

NOTES EXPLANATORY OF MAP.

In the list of stations the column headed W.T. gives the state of the weather at 9 a.m., b, standing for blue sky; c, detached clouds; d, drizzling rain; f, fog; g, gloomy; h, hazy; m, misty; n, frosty; o, overcast; p, passing showers; r, rain; s, snow; t, thunder; u, threatening. The next column, Mx, gives the maximum temperature for previous 24 hours. M'n the corresponding minimum temperature; Rn. the rainfall for the previous 24 hours. The symbols used in the map are explained on the map. At each coast station the wind symbol is placed like a vane pointing to the direction from which the wind is coming. A clear circle with it means fine weather; a circle with bar, cloudy weather; and a black spot, raining. Next to this symbol are placed figures denoting the number of miles the wind is moving per hour; next, a symbol showing the state of the sea; and, lastly, figures denoting the shade temperature at 9 a.m. The barometer curve shows the state of barometers round the coast from Perth to Cooktown:—Pt. Perth; Ay, Albany; Ea, Eucla; CB, Cape Borda; A, Adelaide. Re, Robe; P. Portland; M, Melbourne; W P, Wilson's Promontory; Go, Gabo; E, Eden; Ma, Moruya; C G, Jervis Bay; Wg, Wollongong; S, Sydney; N, Newcastle; P M, Port Macquarie; C, Clarence River; B, Brisbane; R, Rockhampton; Ct, Cooktown. Inland the state of barometer is given in figures at Albury, Deniliquin, Wentworth, Menindie, Bourke, and Alice Springs. The barometer curve enables one at a glance to trace the depressions, beginning with Western Australia, and passing along eastwards; northerly winds preceding them, and southerly following.

The rainfall on Sundays or holidays, when this map is not published, is in all cases included in the quantities shown by the next following map.

9 A.M. OBSERVATIONS.

Western Australia.—Fine weather, light easterly winds, generally smooth to moderate sea, but rough off the N. W. Cape; southerly winds at the head of Australian Bight. Extremes of barometers and temperature: Albany, 30·53; Carnarvon, 30·04 and 89°; and Esperance Bay, 60°.

South Australia.—Generally heavy showers, squally or cloudy; fine north of Quorn; fresh to strong W. to S.W. winds, with rough sea. Rainfall: South of Port Augusta, from 0·01 to 0·49 inch; Greenock, 0·50 inch; Kapunda, 0·41 inch. Extremes of barometers and temperature: Eucla, 30·43; Cape Northumberland, 29·86 and 55°; Daly Waters, 87°.

Victoria.—Generally cloudy and squally, with passing showers; fresh to strong, but moderating N W. to S.W. winds; rough sea in the Straits. Rainfall: Chiefly near the coast, and heaviest, 0·44 inch at Portland. Extremes of barometers and temperature: Echuca 29·94 and 56°; Wilson's Promontory, 29·62; and Omeo, 46°.

Tasmania.—Showery at Circular Heads; fine but unsettled over remainder of island. Fresh N.W. to S.W. winds; moderate to rough sea. Extremes of barometers and temperature: Circular Heads, 29·56 and 51°; Southport, 29·38 and Falmouth, 52°.

New Zealand.—Fine and calm in north; gloomy, with strong N.W. winds in Cook's Straits and in south parts. Barometers: north, 30·20; over centre, 29·90; in south, 29·40.

Queensland.—Fine inland, with strong S.E. to S.W. winds; more or less cloudy and gloomy along the coast, with S.E. winds in north, and N. to W. winds in south; moderate sea. Thunderstorms during the night in the Maranoa district. Extremes of barometers and temperature: Townsville, 30·11; Brisbane, 29·80; Roma, 67°; and Normanton, 85°.

New South Wales.—Cloudy, gloomy, and threatening in the southern half of the colony; showery at Young and Albury; over the remainder fine and cool, but unsettled. Generally cool and squally; fresh to strong W. to S.W. winds; smooth sea. During the past 24 hours light rains fell in the eastern and central territorial divisions generally, but partially in south. The heaviest falls occurred in the New England pastoral district. Extremes of barometers and temperature: Menindie, 30·20; Moruya, 30·58; Wollongong, 77°; and Cooma, 42°. (For further particulars see map).

5 P.M. OBSERVATIONS.

South Australia.—Adelaide, W.S.W, 18, cloudy, temperature 61°.

Victoria.—Portland, W., 40, showery, sea smooth, temperature 57°; Cape Otway, W., 48, gale increasing, squally, showery, and misty, high sea, temperature 54°; Echuca, W., 18, gloomy, and squally and showery, temperature 59°; Cape Schanck, W., 34, misty and squally, sea rough, temperature 56°; Wilson's Promontory, W., 34, showery and squally, sea rough, temperature 52°; Lakes Entrance, W., 34, gloomy and squally, temperature 59°; Omeo, N.W., 23, cloudy and gloomy, temperature 52.

New South Wales.—Menindie, S.W., 28, fine, clear and cool, temperature 66°; Wentworth, W.S.W., 28, cloudy and cool, temperature 60°; Deniliquin, W., 4, overcast and dull, temperature 66°; Moruya, S.W., 28, fine, sea smooth, temperature 6 °; Cape St. George, S.W., 56, fine, but cloudy, sea smooth, temperature 64°; Sydney, W.S.W., 40, dropping rain, squally and cool, sea smooth, temperature 63°; Newcastle, W.S.W., 56, fine, sea smooth, temperature 59°; Port Macquarie, W.S.W., 56, fine, sea smooth, temperature 74°; Clarence River, N.W., 56, fine, sea smooth, temperature 79°; Walgett, W., 14, fine, clear and cool, temperature 72°; Dubbo, W.S.W., 42, fine, temperature 64°; Goulburn, N.W., fine, temperature 62°.

Queensland.—Townsville, S.E., 8, sultry, sea moderate, temperature 80°; Mackay, 23, N., fine; Rockhampton, N.W., 13, fine, temperature 87°; Cape Moreton, S.W., 18, fine, temperature 83°; Brisbane, S.W., 34, squally and dusty, temperature 82°; Hughenden, S.W., fine and hot; Boulia, S E., fine and cool; Blackall, S.E., fine; Thargomindah, S.W., fine; Roma, S.W., 13, cloudy and squally, temperature 76°.

HEIGHT OF RIVERS ABOVE SUMMER LEVEL.

Macintyre: At Yetman low; at Mungindi, 3ft. 6in., stationary. Barwon: At Mogil Mogil, 3ft., falling; at Walgett, 6ft. falling. Namoi: At Walgett, 3ft. stationary. Culgoa: At Goodooga, low. Darling: At Brewarrina, 6ft 6in., falling; at Bourke, 12ft. 4in., falling; at Louth, 20ft. 7in., falling; at Tilpa, 31ft. 4in., falling; at Wilcannia, 31ft. 6in., stationary; at Menindie, 25ft. 8in., rising; at Pooncarie, 20ft. 9in., stationary; at Wentworth, 31ft 3in. Murrumbidgee: At Wagga, 9ft. 9in.; at Hay, 13ft. 2in.; at Balranald, 16ft. 10in. Murray: At Albury, 10ft.; at Euston 23ft. 5in.

ASTRONOMICAL MEMORANDA FOR OCTOBER 20.

Sun rises at 5.14, sets at 6.16; Moon 8.4 a.m., 9.40 p.m.; Mercury, 6.13 a.m., 8.8 p.m.; Venus, 3.26 a.m., 3.20 p.m.; Mars, 3.0 a.m., 1.59 p.m.; Jupiter, 6.9 a.m., 7.31 p.m.; Saturn, 1.28 a.m., 11.46 a.m. Full moon October 2; new moon, October 17.

High water at Fort Denison, October 20: 10.28 a.m., 10.49 p.m.

H. A. LENEHAN,
Acting Government Astronomer.

METEOROLOGICAL ...

Stations.	wt	Mx	Mn	Rn.
Albury ..	c	60	45	0·36
Armidale	b	59	44	0
Balranald	b	76	41	0
Bathurst	b	54	45	0·01
Bendem'r	c	67	46	0
Bodalla ..	b	64	43	0
Bourke ..	b	76	50	0
Buncarra	b	81	46	0
C'md'n H.	b	73	54	0
C. St. Geo.	b	79	47	0
Carcoar ..	b	55	34	0·12
Casino ..	b	87	49	0
Cassilis ..	c	64	53	0
Clarence .	b	80	58	0
C'nd'b'lin	c	97	47	0
Cooma ..	b	55	34	0·02
Coonab'n.	b	67	49	0
Cowra ..	b	73	46	0·04
Cudg'llico	b	73	51	0
Deniliq'n.	c	68	35	0
Dubbo ..	b	66	47	0
Eden	b	54	47	0·11
Euston ..	b	71	46	0
Forbes ..	b	—	46	0
G'ho Isl'nd	o	60	40	0·59
Glen Inn's	b	64	41	0
Goulburn	b	58	39	0
Grafton ..	b	88	52	0
Gulgong .	b	69	37	0
Gunned'h	b	70	47	0
Hay . ..	b	82	46	0
Inverell . .	b	71	38	0
Kiandra. .	g	42	27	1·65
Lismore .	b	83	52	0
Maitland .	b	76	57	0
M'n'ng H.	b	71	42	0
Marsdens.	b	67	53	0
Menindie.	b	72	54	0
Molong ..	b	57	43	0
M'r'ng'r'll	b	62	50	0
Moree ..	b	77	47	0
Moruya ..	b	68	48	0
Moss Vale	-	—	—	-
Mt. Hope	c	78	48	0
M. V c'r'a	b	52	38	0
Mudgee ..	b	70	45	0
M'rr'mb'h	c	5[illegible]	45	0·16
M'rr'r'ndi	b	63	49	0
Mus'lbr'k	b	70	52	0
Narrabri	b	75	43	0
Newcastle	–	—	—	–
Orange ..	b	52	44	0·03
Picton ..	b	62	56	0
P. M'q'ri	b	75	47	0
P. St'ph'n	b	71	55	0
Q'nbeyan	b	77	29	0·03
Quirindi	b	71	46	0
Singleton	b	90	59	0
SYDNEY .	b	72	59	0
Taralga .	b	69	38	0
Taree ..	b	79	56	0
T'nt'rfield	b	88	45	0
Wagga ..	b	70	37	0·09
Walcha ..	–	—	—	–
Walgett	b	70	51	0
Warialda	b	74	37	0
Warrah ..	b	67	44	0
W'ntw'rth	b	68	49	0
W'll'ng'ng	b	81	59	0
Young ..	b	65	42	0·11

SYDNEY OBSERVATORY.

LATITUDE 33° 51' 41" S. LONGITUDE 10h. 4m. 50·8in. E.

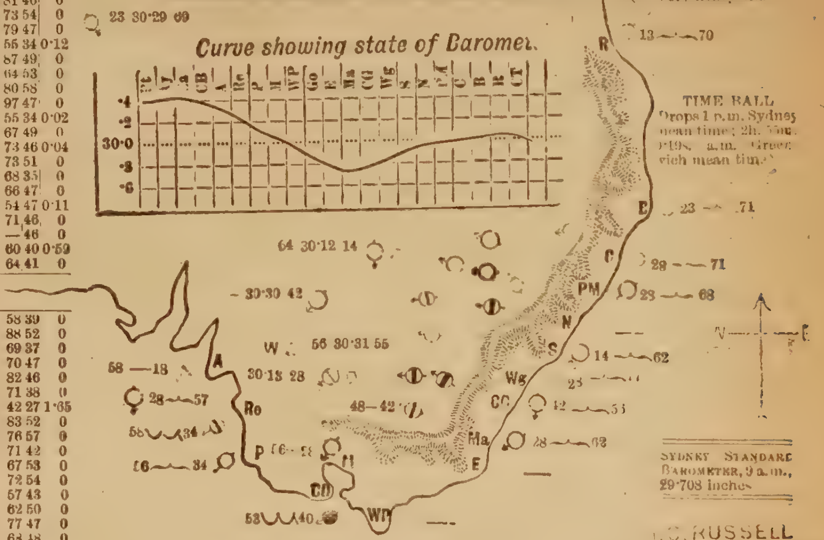
MAGNETIC VARIATION, 9° 35' 37" E.

Average Annual Rainfall for 28 years................49·480

Average for 29 years from Jan. 1 to Sep. 30 1887.. .. 41·210

Total Rainfall from Jan. 1, to Oct 19 1887 .... 49·002

Barometers corrected to 32° Fah. and Mean Sea Level



Fine, wind N. Cloudy, wind E. T. storm, Rain, wind S. wind W. If it is CALM, the symbol used without the arrow. Smooth sea. Heavy sea. Very heavy sea.

TIME BALL

Drops 1 p.m. Sydney mean time; 2h. 55m. 9·19s. a.m. Greenwich mean time.

SYDNEY STANDARD BAROMETER, 9 a.m., 29·708 inches

H. C. RUSSELL

GOVERNMENT ASTRONOMER

NOTES EXPLANATORY OF MAP.

In the list of stations the column headed W.T. gives the state of the weather at 9 a.m.: b, standing for blue sky; c, detached clouds; d, drizzling rain; f, fog; g, gloomy; h, hazy; m, misty; n, frosty; o, overcast; p, passing showers, r, rain; s, snow; t, thunder; u, threatening. The next column, M x, gives the maximum temperature for previous 24 hours; M'n the corresponding minimum temperature; R'n, the rain for the previous 24 hours. The symbols used in the map are explained on the margin. At each coast station the wind symbol is placed like a vane pointing to the direction from which the wind is coming. A clear circle with it means fine weather, a circle with bar, cloudy weather; and a black spot, raining. Next to this symbol are placed figures denoting the number of miles the wind is moving per hour; next, a symbol showing the state of the sea; and, lastly, figures denoting the shade temperature at 9 a.m. The barometer curve shows the state of barometers round the coast from Perth to Cooktown: Pt Perth; Ay, Albany; Ea, Eucla; CB, Cape Borda; A, Adelaide; Ro, Robe; P, Portland; M, Melbourne; W P, Wilson's Promontory; Go, Gabo; E, Eden; Ma, Moruya; C G, Jervis Bay; Wg, Wollongong; S, Sydney; N, Newcastle; P M, Port Macquarie; C, Clarence River; B, Brisbane; R, Rockhampton; Ct, Cooktown. Inland the state of barometer is given in figures at Albury, Deniliquin, Wentworth, Menindie, Bourke, and Alice Springs. The barometer curve enables one at a glance to trace the depressions beginning with Western Australia, and passing along eastwards; northerly winds preceding them, and southerly following.

The rainfall on Sundays or holidays, when this map is not published, is in all cases included in the quantities shown by the next following map.

9 A.M. OBSERVATIONS.

Western Australia.—Fine and hot generally, with light easterly winds and smooth sea. Extremes of barometers and temperature: Esperance Bay, 30·, 44·, and 58·; Carnarvon, 30·00 and 100·.

South Australia.—Fine, but more or less cloudy south of Port Augusta; fresh W. to S.W. winds, moderate sea. Rainfall: South of Port Augusta, from 0·01 to 0·20 inch, but partial; no reports from the Northern Territory. Extremes of barometers and temperature: Eucla, 30·40; Cape Northumberland, 30·06 and 55·; Alice Springs, , 69·.

Victoria.—Squally and in parts showery; strong W. to S.W. winds; rough sea in the straits. Coast lines interrupted; reports incomplete. Extremes of barometers and temperature: Horsham, 30·10 and 57·; Cape Schanck, 29·91; and Ballarat, 49·.

Tasmania.—Hail and rain storms in S.E. parts; unsettled in north; fresh south and westerly winds, moderate sea. From 0·05 to 0·94 inch rain fallen on the East Coast. Extremes of barometers and temperature: Low Heads, 29·62; Southport, 29·46; Hobart, 46·; and Falmouth, 53·.

New Zealand.—Generally squally from N.E. to N.W., with rough sea. Barometers: In north, 30·0; over centre, 29·50; in south, 28·90.

Queensland.—Generally fine, but more or less cloudy with smoke haze in N.E. parts; thunderstorms in Cape York district; Coen reports 1·03in rain; fresh to strong S.E. to S.W. winds, smooth sea. Extremes of barometers and temperature: Rockhampton, 30·01; Cooktown, 29·91; Roma, 68·; and Thursday Island, 83·.

New South Wales.—Fine, with clouds at scattered places, chiefly in south parts; fresh to rather strong south-westerly winds, smooth sea. During the past twenty-four hours light rain fell in the Upper Lachlan and Murrumbidgee pastoral districts, and heavy at Kiandra. Extremes of barometers and temperature: Wentworth, 30·31; Moruya, 29·77; Wollongong, 77·; and Cooma, 43·. (For further particulars see map.)

3 P.M. OBSERVATIONS.

South Australia.—Adelaide, S.W, 13, fine, temperature 62·.

Victoria.—Portland, W.S.W., 34, cloudy, sea smooth, temperature 57·; Cape Otway, W., 40, raining and squally, sea rough, temperature 54·; Melbourne, S.W., 13, cloudy and showery, temperature 53·; Cape Schanck, W.S.W., 34, cloudy, temperature 57·.

New South Wales.—Menindie, S.W., 42, fine and cool, temperature 65·; Wentworth, S., 14 fine, temperature 62·; Deniliquin, W., 28, overcast, temperature 66·; Eden, S.W., 28, rain, sea smooth, temperature 60·; Moruya, W., 8, fine, sea smooth, temperature 6·; Cape St. George, S.E., 28, fine, but cloudy, sea moderate, temperature 62·; Sydney, S.W., 27, fine, cool, and squally, sea smooth, temperature 69·; Port Macquarie, S.E., 12, fine, sea smooth, temperature 76·; Walgett, S.W., 14, fine, temperature 75·; Dubbo, W., 42, fine, temperature 65·; Goulburn, W., 14, fine, temperature 60·.

Queensland.—Townsville, S.E., 18, smoky haze, sea smooth, temperature 80·; Mackay, W., strong, threatening; Rockhampton, S., 13, fine, temperature 82·; Cape Moreton, N.W., 13, fine, temperature 76·; Brisbane, S.W., 13, fine, temperature 84·; Hughenden, N.E., 13, fine and hot; Boulia, S.E., 23, fine and cool, Blackall, S.E., 13, fine and warm; Thargomindah, S.E., Roma, S., 8, fine.

HEIGHT OF RIVERS ABOVE SUMMER LEVEL.

Macintyre: At Yetman, low; at Mungindi, 3ft., stationary. Barwon: At Mogil Mogil, 2ft. 9in., falling; at Walgett, 5ft. 6in., falling. Namoi: At Walgett, 3ft., stationary. Darling: At Bourke, 11ft. 10in., falling; at Louth, 1 ft. 6in., falling; at Tilpa, 30ft., falling; at Wilcannia, 31ft. 6 in., stationary; at Menindie, 25ft. 8in.; at Pooncarie, 22ft. 9in., stationary; at Wentworth, 21ft. 4in. Murrumbidgee: At Gundagai, at 6ft., stationary; at Wagga, 9ft. 9in.; at Hay, 13ft. 5in., rising; at Balranald, 16ft. 10in. Murray: At Albury, 10ft. 3in.; at Euston, 23ft. 6in.

ASTRONOMICAL MEMORANDA FOR OCTOBER 21.

Sun rises at 5.13, sets at 6.17; Moon 8.55 a.m., 10.44 p.m.; Mercury, 6.12 a.m. 8.10 p.m.; Venus, 3.24 a.m., 3.26 p.m.; Mars, 2.57 a.m., 1.57 p.m.; Jupiter, 6.5 a.m., 7.29 p.m.; Saturn, 1.25 a.m., 11.43 a.m. Full moon, October 2; new moon, October 17.

High water at Fort Denison: 11.12 a.m., 11.34 p.m.

H. A. LENEHAN,
Acting Government Astronomer.

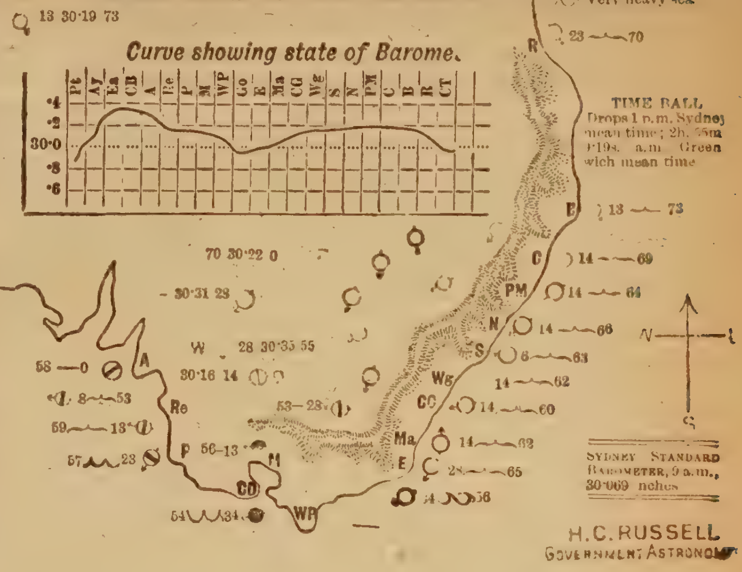
Stations.	wt	Mx	mn	Rn.
Albury ...	c	58	40	0
Armidale	b	63	37	0
Balranald	b	83	46	0
Bathurst	b	61	37	0
Bendem'r	b	69	36	0
Bodalla ..	b	71	58	0
Bourke ..	b	80	48	0
Buncarra	b	—	45	0
C'md'n H.	b	72	51	0
C. St. Geo.	b	69	46	0
Carcoar ..	b	59	34	0
Casino ..	b	59	49	0
Cassilis ..	b	68	44	0
Clarence .	b	82	57	0
C'nd'b'lin	b	86	46	0
Cooma ..	n	58	29	0
Coonab'n.	b	73	37	0
Cowra ..	b	60	41	0
Cudg'llico	b	80	47	0
Deniliq'n.	b	70	41	0
Dubbo ..	b	71	34	0
Eden	b	67	51	0
Euston ..	b	74	44	0
Forbes ..	b	—	49	0
G'bo Isl'nd	b	57	48	0 14
Glen Inn's	b	71	38	0
Goulburn	b	57	37	0
Grafton ..	b	87	51	0
Gulgong .	b	70	32	0
Gunned'h	b	76	45	0
Hay	b	77	48	0
Inverell .	b	72	38	0
Kiandra .	b	57	28	0·32
Lismore .	b	88	52	0
Maitland .	b	78	49	0
M'n'ng H.	b	70	48	0
Marsdens.	b	71	51	0
Menindie.	b	72	51	0
Molong ..	b	64	35	0
M'r'ng'r'll	b	65	42	0
Moree ..	b	82	47	0
Moruya ..	b	70	43	0
Moss Vale	b	58	42	0
Mt. Hope	–	—	—	–
M. V'ct'ria	b	59	37	0
Mudgee ..	b	78	34	0
M'rr'mb'h	b	59	41	0
M'rr'r'ndi	b	66	47	0
Mus'lbr'k	b	75	37	0
Narrabri	b	77	49	0
Newcastle	b	70	48	0
Orange ..	b	57	40	0
Picton ..	b	66	39	0
P. M'q'rie	b	76	45	0
P. St'ph'n	b	68	45	0
Q'nbeyan	b	77	50	0
Quirindi	b	79	45	0
Singleton	b	79	52	0
Sydney .	b	72	51	0
Taralga ..	b	59	35	0
Taree ...	b	79	47	0
T'nt'rfield	b	88	47	0
Wagga ..	b	65	33	0
Walcha ..	b	62	29	0
Walgett	b	76	47	0
Warialda	b	78	37	0
Warrah ..	b	84	41	0
W'ntw'rth	b	74	46	0
W'll'ng'ng	b	70	50	0
Young ..	b	71	37	0

SYDNEY OBSERVATORY.

Latitude 33° 51' 41" S. Longitude 10h. 4m. 50·5is. E.
Magnetic Variation, 9° 35' 37" E.

Average Annual Rainfall for 28 years .... 49·489
Average for 29 years from Jan. 1 to Sep. 30 1887 .. 41·210
Total Rainfall from Jan. 1, to Oct. 21 1887 ...... 49·003
Barometers corrected to 32° Fah. and Mean Sea Level

Fine, wind N. Cloudy, wind E.
T. storm, wind S. Rain, wind W.
If it is calm, the symbol used without the arrow.
Smooth sea.
Heavy sea.
Very heavy sea.



TIME BALL.
Drops 1 p.m. Sydney mean time; 2h. 55m. 1·19s. a.m. Greenwich mean time

SYDNEY STANDARD BAROMETER, 9 a.m., 30·069 inches.

H. C. RUSSELL,
GOVERNMENT ASTRONOMER.

NOTES EXPLANATORY OF MAP.

In the list of stations the column headed W.T. gives the state of the weather at 9 a.m., b, standing for blue sky; c. detached clouds; d, drizzling rain; f, fog; g, gloomy; h, hazy; m, misty; n, frosty; o, overcast; p, passing showers; r, rain; s, snow; t, thunder; u, threatening. The next column, Mx gives the maximum temperature for previous 24 hours; M'n the corresponding minimum temperature; r'n, the rain for the previous 24 hours. The symbols used in the map are explained on the margin. At each coast station the wind symbol is placed like a vane pointing to the direction from which the wind is coming. A clear circle with it means fine weather; a circle with bar, cloudy weather; and a black spot, raining. Next to this symbol are placed figures denoting the number of miles the wind is moving per hour; next, a symbol showing the state of the sea; and, lastly, figures denoting the shade temperature at 9 a.m. The barometer curve shows the state of barometers round the coast from Perth to Cooktown: Pt Perth; Ay, Albany; Ea, Eucla; CB, Cape Borda; A, Adelaide; Re, Robe; P, Portland; M, Melbourne; W P, Wilson's Promontory; Go, Gabo; E, Eden; Ma, Moruya; C G, Jervis Bay; Wg, Wollongong; S, Sydney; N, Newcastle; P M, Port Macquarie; C Clarence River; B, Brisbane; R, Rockhampton; Ct, Cooktown. Inland the state of barometer is given in figures at Albury, Deniliquin, Wentworth, Menindie, Bourke, and Alice Springs. The barometer curve enables one at a glance to trace the depressions, beginning with Western Australia, and passing along eastwards; northerly winds preceding them, and southerly following.

The rainfall on Sundays or holidays, when this map is not published, is in all cases included in the quantities shown by the next following map.

9 A.M. OBSERVATIONS.

Western Australia.—Generally fine and warm: light E. to N.E. winds; smooth sea. Extremes of barometers and temperature: Esperance Bay, 30·22; Perth, 29·83; Cossack, 88·; and Albany, 59·.

South Australia.—Generally fine inland; cloudy and gloomy on and near the coast; light variable winds, chiefly W. to S.W. and calms; smooth to moderate sea. Extremes of barometers and temperature: Cape Borda, 30·26 and 53·; Port Darwin, 29·89 and 85·.

Victoria.—More or less cloudy and dull generally; showery on the coast; moderate to fresh W. to S.W. winds; rough sea. Light rains have fallen, chiefly near the coast. Extremes of barometers and temperature: Echuca, 30·20 and 59·; Cape Otway, 30·06; and Hamilton, 51·.

Tasmania.—Generally fine but unsettled; fresh to strong W. to S.W. winds, rough sea on the north and west coasts; smooth sea on the east coast. Extremes of barometers and temperature: Circular Heads, 29·85; Hobart, 29·65; Falmouth, 59·; and Low Heads, 53·.

New Zealand.—Severe northerly gales yesterday over the colony, southward of latitude 39·. The lowest atmospheric pressure occurred at Bluff at 2 p.m., when the barometer fell to 28·60 inches. In Cook's Strait, fierce squalls and heavy rains occurred during the night. The weather is now generally fine but unsettled, with fresh to strong W. to N.W. winds. Barometers: In north, 29·90; over centre, 29·60; in south, 29·10.

Queensland.—Fine throughout, except on the tropical coast, where it is still unsettled: light S. to S.E. winds, smooth sea. Light thunderstorms occurred yesterday near Cape York. Extremes of barometers and temperature: Brisbane, 30·08; in north-east parts generally, 29·91 and 84·; Roma, 68·.

New South Wales.—Fine, clear, and cool throughout; light south-west to south winds, and at places calm, smooth sea. Squally with rather rough sea at Albury; frosty at Cooma. During the past twenty-four hours only two stations report rain, viz., Gabo and Kiandra. Extremes of barometers and temperature: Wentworth, 30·35; Gabo Island, 29·88; Bourke, 70·; and Cooma, 47·. (For further particulars see map.)

3 P.M. OBSERVATIONS.

South Australia.—Adelaide, S.W, 8, fine, temperature 63·.

Victoria.—Portland, W.S.W., 40, cloudy and misty, sea rough, temperature 58·; Cape Otway, W.N.W., 40, passing showers, sea rough, temperature 56·; Melbourne, W.S.W., 13, cloudy and gloomy, temperature 60·; Cape Schanck, S.W., 23, cloudy and misty, sea rough, temperature 58·; Omeo, W., 23, cloudy, temperature 59·.

New South Wales.—Menindie, S.W., 28, fine and cool, temperature 62·; Wentworth, N.W., 14, fine, temperature 61·; Deniliquin, calm, fine, temperature 70·; Eden, N.E., 14, fine, sea smooth, temperature 63·; Moruya, N.E., 42, fine, sea smooth, temperature 63·; Cape St. George, N.E., 42, fine, sea smooth, temperature 63·; Sydney, E., 14, fine, sea moderate, temperature 63·; Newcastle, N.E., 14, fine, sea smooth, temperature 63·; Port Macquarie, E., 14, fine sea smooth, temperature 2·; Walgett, calm, fine and clear, temperature 76·; Dubbo, N., 14, fine, temperature 65·; Goulburn, N.W., 14, fine, temperature 61·.

Queensland.—Townsville, N.E., 28, fine, sea smooth, temperature 78·; Rockhampton, E.N.E., 18, fine, temperature 8·; Cape Moreton, E.S.E., 18, fine, temperature 78·; Brisbane, N.E., 18, fine, temperature 76·; Hughenden, calm, threatening; Boulia, S.E., 18, fine; Blackall, S.E., fine; Thargomindah, S.E., fine.

HEIGHT OF RIVERS ABOVE SUMMER LEVEL.

Macintyre: At Yetman, low; at Mungindi, 3ft. Barwon: At Mogil Mogil, 2ft.; at Walgett, 5ft. Namoi: At Wee Waa, 3ft. Culgoa: At Goodooga, low. Darling: At Brewarrina, ft. 6in.; at Bourke, 11ft. 4in.; at Louth, 19ft.; at Tilpa, 2...; at Wilcannia, 31ft. 5in.; at Menindie, 25ft. 8in.; at Pooncarie, 22ft. 9in.; at Wentworth, 21ft 5in. Murrumbidgee: At Wagga, 9ft. 6in.; at Hay, 13ft. 5in.; at Balranald, 16ft. 10in. Murray: At Albury, 10ft. 8in.; at Euston 23ft. 7in.

ASTRONOMICAL MEMORANDA FOR OCTOBER 22.

Sun rises at 5.12, sets at 6.17; Moon, 9.49 a.m., 11.41 p.m.; Mercury, 6.12 a.m. 8.12 p.m.; Venus, 3.22 a.m., 3.24 p.m; Mars, 2.55 a.m., 1.56 p.m.; Jupiter, 6.2 a.m., 7.26 p.m.; Saturn, 1.21 a.m., 11.39 a.m. Full moon, October 2; new moon, October 17.

High water at Fort Denison: 11.58 a.m., — p.m.

H. A. LENEHAN,
Acting Government Astronomer.

METEOROLOGICAL ...

Stations.	W.T.	M'x	M'n	R'n
Albury	b	65	18	0
Armidale	b	69	39	0
Balranald	b	85	47	0
Bathurst	b	73	37	0
Bendem'r	b	70	35	0
Bodalla	b	67	38	0
Bourke	b	85	54	0
Buncarra	b	—	45	0
C'md'n H.	b	70	54	0
C. St. Geo.	b	65	51	0
Carcoar	b	60	31	0
Casino	b	85	46	0
Cassilis	b	69	46	0
Clarence	b	82	57	0
C'nd'b'lin	b	86	51	0
Cooma	n	75	32	0
Coonab'n.	b	78	36	0
Cowra	b	76	46	0
Cudg'llico	b	72	45	0
Deniliq'n.	b	81	40	0
Dubbo	b	77	34	0
Eden	b	63	48	0
Euston	b	78	43	0
Forbes	b	—	49	0
G'bo Isl'nd	b	62	51	0
Glen Inn's	b	84	39	0
18—64 EUCLA				
Goulburn	b	69	43	0
Grafton	b	103	52	0
Gulgong	b	71	32	0
Gunned'h	b	79	46	0
Hay	b	—	—	0
Inverell	b	74	40	0
Kiandra	b	63	28	0
Lismore	b	84	55	0
Maitland	b	76	48	0
M'n'ng R.	b	72	47	0
Marsdens.	b	76	53	0
Menindie.	b	73	51	0
Molong	b	73	36	0
M'r'ng'r'll	b	73	47	0
Moree	b	78	45	0
Moruya	b	67	45	0
Moss Vale	—	—	—	—

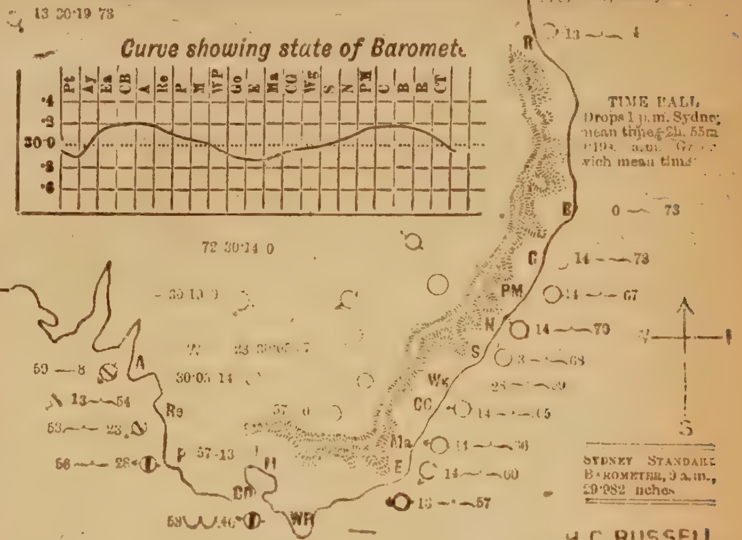
SYDNEY OBSERVATORY.

Latitude 33° 51' 41" S. Longitude 10h. 4m. 50·8s. E.

Magnetic Variation, 9° 36' 37" E.

Average Annual Rainfall for 29 years ... 49·420
Average for 29 years from Jan. 1 to Sep. 30 1887 ... 41·213
Total Rainfall from Jan. 1, to Oct. 22 1887 ...... 49·004

Barometers corrected to 32° Fah. and Mean Sea Level



Fine, wind N. Cloudy, wind E. T. storm, wind S. Rain, wind W. If it is calm, the symbol used without the arrow. Smooth sea. Heavy sea. Very heavy sea.

TIME BALL.
Drops 1 p.m. Sydney mean time, 2h. 55m. ... a.m. ... with mean time.

SYDNEY STANDARD BAROMETER, 9 a.m., 29·982 inches.

H. C. RUSSELL
GOVERNMENT ASTRONOMER

Stations.	W.T.	M'x	M'n	R'n
Mt. Hope	b	81	52	0
M. Vict'ria	b	71	44	0
Mudgee	b	81	37	0
M'rr'mb'h	b	69	40	0
M'rr'r'ndi	b	64	47	0
Mus'lbr'k	b	78	45	0
Narrabri	b	81	44	0
Newcastle	b	73	51	0
Orange	b	63	43	0
Picton	b	74	43	0
P. M'q'rie	b	70	48	0
P. St'ph'n	b	69	47	0
Q'nbeyan	b	79	29	0
Quirindi	b	86	41	0
Singleton	b	81	52	0
Sydney	b	68	51	0
Taralga	b	68	37	0
Taree	b	77	50	0
T'nt'rfield	b	79	52	0
Wagga	b	70	40	0
Walcha	n	68	30	0
Walgett	b	77	49	0
Warialda	b	81	38	0
Warrah	b	74	44	0
W'ntw'rth	b	76	48	0
W'll'ng'ng	b	74	51	0
Young	b	78	36	0

NOTES EXPLANATORY OF MAP.

In the list of stations the column headed W.T. gives the state of the weather at 9 a.m., b, standing for blue sky; c, detached clouds; d, drizzling rain; f, fog; g, gloomy; h, hazy; m, misty; n, frosty; o, overcast; p, passing showers; r, rain; s, snow; t, thunder; u, threatening. The next column, M'x gives the maximum temperature for previous 24 hours; M'n the corresponding minimum temperature; r'n, the rain for the previous 24 hours. The symbols used in the map are explained on the margin. At each coast station the wind symbol is placed like a vane pointing to the direction from which the wind is coming. A clear circle with it means fine weather; a circle with bar, cloudy weather; and a black spot, raining. Next to this symbol are placed figures denoting the number of miles the wind is moving per hour; next, a symbol showing the state of the sea; and, lastly, figures denoting the shade temperature at 9 a.m. The barometer curve shows the state of barometers round the coast from Perth to Cooktown:—Pt, Perth; Ay, Albany; Ea, Eucla; CB, Cape Borda; A, Adelaide; Re, Robe; P, Portland; M, Melbourne; W P, Wilson's Promontory; Go, Gabo; E, Eden; Ma, Moruya; C G, Jervis Bay; Wg, Wollongong; S, Sydney; N, Newcastle; P M, Port Macquarie; C, Clarence River; B, Brisbane; R, Rockhampton; Ct, Cooktown. Inland the state of barometer is given in figures at Albury, Deniliquin, Wentworth, Menindie, Bourke, and Alice Springs. The barometer curve enables one at a glance to trace the depressions, beginning with Western Australia, and passing along eastwards; northerly winds preceding them, and southerly following.

The rainfall on Sundays or holidays, when this map is not published, is in all cases included in the quantities shown by the next following map.

9 A.M. OBSERVATIONS.

Western Australia.—Fine warm weather, light variable winds and calms; smooth sea. Extremes of barometers and temperature: Esperance Bay, 30·03 and 70°; Carnarvon, 29·92 and 87°.

South Australia.—Generally fine, pleasant weather north of Burra and west of Cape Borda; more or less cloudy, and at places passing showers of misty rain over the remainder of the colony; light variable, chiefly S.W. to S.E., winds and calms. Extremes of barometers and temperature: Adelaide, 30·09; Port Darwin, 29·88 and 86°; Robe, 53°.

Victoria.—Inland fine and clear, on or near the coast more or less cloudy; light variable, chiefly W. to S.W. winds; rather rough sea; strong squalls in the Straits. Rainfall: On and near the coast, from 0·02 to 0·07 in. Extremes of barometers and temperature: Horsham, 30·06; Omeo, 29·94 and 60°; Hamilton, 53°.

Tasmania.—Cloudy and unsettled; showery at Hobart; fresh to strong squally westerly winds; rough sea on the north and west coasts, smooth sea on the east coast. Extremes of barometers and temperature: Circular Head, 29·73; Falmouth, 29·51 and 58°; Hobart, 48°.

New Zealand.—Increased pressure generally, with fresh S.W. to N.W. winds, and fine weather.

Queensland.—More or less cloudy and unsettled along the coast; fine inland, with smoke haze; light variable, chiefly easterly winds; smooth to moderate sea. Thunderstorm yesterday at Hughenden. Extremes of barometers and temperature: Brisbane, 30·15; Normanton, 29·92 and 85°; Cape Moreton, 72°.

New South Wales.—Fine clear weather throughout the colony; light westerly winds, and at places calms; smooth sea. No rain has fallen during the last 24 hours. Extremes of barometers and temperature: Menindie, 30·19; Gabo Island, 29·86; Clarence, 73°; and Kiandra, 55°. (For further particulars see map.)

3 P.M. OBSERVATIONS.

New South Wales.—Menindie, S.W., 28, fine and warm, temperature 70°; Wentworth, S.W., 14, fine, temperature 62°; Deniliquin, calm, fine, temperature 72°; Eden, W., 14, fine, sea smooth, temperature 60°; Moruya, S., 42, fine, sea smooth, temperature 76°; Cape St. George, W., 42, fine, sea smooth, temperature 70°; Sydney, N.E., 28, fine, sea smooth; Newcastle, N.W., 28, fine, sea smooth, temperature 81°; Port Macquarie, N.E., 28, fine, but hazy, sea smooth, temperature 75°; Clarence River, N.E., 28, fine, sea smooth, temperature 73°; Walgett, S.W., fine, temperature 80°; Goulburn, W., fine, temperature 63°.

Queensland.—Townsville, S.E., 18, stormy in S.W., sea slight, temperature 79°; Mackay, S.E., 18, cloudy and hot; Rockhampton, E.N.E., 18, fine, but cloudy, temperature 77°; Cape Moreton, N., 18, fine, but hazy, temperature 76°; Blackall, N., 8, hazy, close, and partially cloudy.

HEIGHT OF RIVERS ABOVE SUMMER LEVEL.

Macintyre: At Mungindi, low. Barwon: At Mogil Mogil, falling; at Walgett, falling, 4ft. 6in. Namoi: At Walgett, stationary, 3ft. Culgoa: At Goodooga, falling, low. Darling: At Brewarrina, falling, 5ft.; at Bourke, falling, 11ft.; at Louth, falling fast, 14ft. 6in.; at Tilpa, falling, 26ft.; at Wilcannia, stationary, 31ft. 6in.; at Menindie, 25ft. 8in.; at Pooncarie, stationary, 22ft. 9in.; at Wentworth, stationary, 21ft. 6in. Murrumbidgee: At Gundagai, stationary, 6ft.; at Wagga, 9ft. 2in.; at Hay, falling, 13ft.; at Balranald, 16ft. 10in. Murray: At Albury, 10ft. 11in.; at Euston, 23ft. 6in.

ASTRONOMICAL MEMORANDA FOR OCTOBER 24.

Sun rises at 5.10, sets at 6.19; Moon, 11.42 a.m., 12.32 a.m.; Mercury, 6.12 a.m., 8.15 p.m.; Venus, 3.18 a.m., 3.19 p.m.; Mars, 2.50 a.m., 1.54 p.m.; Jupiter, 5.55 a.m., 7.20 p.m.; Saturn, 1.13 a.m., 11.31 a.m. Full moon, October 2; new moon, October 17. High water at Fort Denison: 1.12 a.m., 1.42 p.m.

H. A. LENEHAN,
Acting Government Astronomer.

Stations.	W.T.	Mx	M'n	R'n.
Albury ..	b	73	42	0
Armidale	u	74	41	0
Balranald	b	88	47	0
Bathurst	b	79	36	0
Bendem'r	c	74	39	0
Bodalla ..	g	74	36	0
Bourke ..	g	96	64	0
Bungarra	b	81	52	0
C'md'n H.	c	79	53	0
C. St. Geo.	g	67	52	0
Carcoar ..	b	65	36	0
Casino ..	c	87	55	0
Cassilis ..	c	70	59	0
Clarence .	c	83	64	0
C'nd'b'lin	b	89	52	0
Cooma ..	c	77	43	0
Coonab'n.	g	86	41	0
Cowra ..	b	88	41	0
Cudg'llico	b	87	46	0
Deniliq'n.	b	78	56	0
Dubbo ..	b	86	46	0
Eden	b	60	52	0
Euston ..	b	88	48	0
Forbes ..	b	—	49	0
G'bo Isl'nd	b	59	53	0
Glen Inn's	b	85	42	0
Goulburn	b	77	35	0
Grafton ..	b	87	60	0·02
Gulgong .	b	78	34	0
Gunned'h	c	87	57	0
Hay	b	77	46	0
Inverell. .	b	79	53	0
Kiandra. .	n	68	26	0
Lismore .	b	86	62	0
Maitland .	b	79	62	0
M'n'ng H.	b	72	59	0
Marsdens.	b	84	54	0
Menindie.	g	81	55	0
Molong ..	b	71	37	0
M'r'ng'r'll	b	79	51	0
Moree ..	b	89	52	0
Moruya ..	g	62	51	0
Moss Vale	g	71	53	0·07
Mt. Hope	g	90	52	0
M. Vict'ria	g	83	39	0
Mudgee ..	b	85	36	0
M'rr'mb'h	b	78	40	0
M'rr'r'ndi	b	63	49	0
Mus'lbr'k	b	80	59	0
Narrabri	o	84	53	0
Newcastle	b	71	61	0
Orange ..	b	69	46	0
Picton ..	u	74	56	0
P. M'q'rie	c	74	64	0
P. St'ph'n	b	72	59	0
Q'nbeyan	c	73	42	0
Quirindi	b	95	49	0
Singleton	b	83	51	0
Sydney ..	b	67	60	0
Taralga ..	g	77	33	0
Taree	c	77	63	0
T'nt'rfield	u	82	50	0
Wagga ..	b	82	36	0
Walcha ..	o	74	48	0
Walgett	u	89	61	0
Warialda	b	88	50	0
Warrah ..	b	84	45	0
W'ntw'rth	b	83	54	0
W'll'ng'ng	b	71	54	0
Young ..	b	86	38	0

SYDNEY OBSERVATORY.

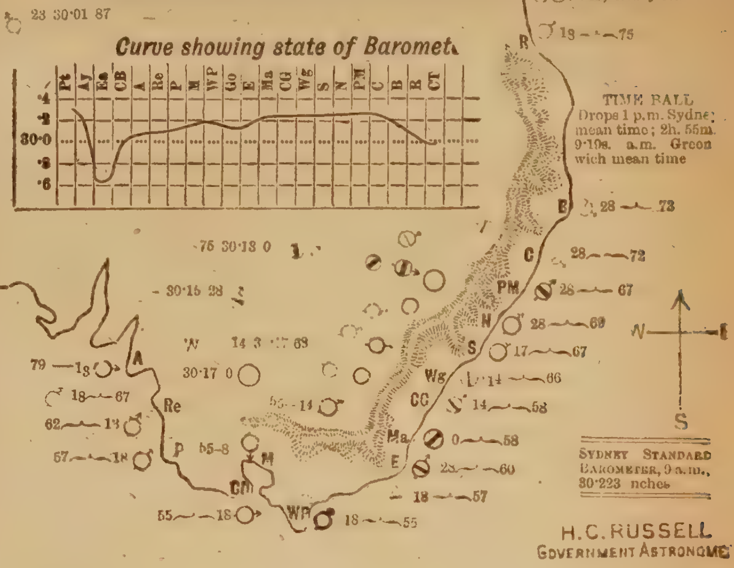
Latitude 33° 51' 41" S. Longitude 10h. 4m. 50·81s. E.

Magnetic Variation, 9° 35' 37" E.

Average Annual Rainfall for 28 years .... 49·459
Average for 29 years from Jan. 1 to Sep. 30 1887 .. .. 41·210
Total Rainfall from Jan. 1, to Oct. 24 1887 ...... 49·004

Barometers corrected to 32° Fah. and Mean Sea Level

Fine, wind N. Cloudy wind E. T. storm, wind S. Rain wind W.
If it is calm, the symbol used without the arrow
Smooth sea.
Heavy sea.
Very heavy sea.



NOTES EXPLANATORY OF MAP.

In the list of stations the column headed W.T. gives the state of the weather at 9 a.m., b, standing for blue sky; c, detached clouds; d, drizzling rain; f, fog; g, gloomy; h, hazy; m, misty; n, frosty; o, overcast; p, passing showers; r, rain; s, snow; t, thunder; u, threatening. The next column, M'x gives the maximum temperature for previous 24 hours; M'n the corresponding minimum temperature; r'n, the rain for the previous 24 hours. The symbols used in the map are explained on the margin. At each coast station the wind symbol is placed like a vane pointing to the direction from which the wind is coming. A clear circle with it means fine weather; a circle with bar, cloudy weather; and a black spot, raining. Next to this symbol are placed figures denoting the number of miles the wind is moving per hour; next, a symbol showing the state of the sea; and, lastly, figures denoting the shade temperature at 9 a.m. The barometer curve shows the state of barometers round the coast from Perth to Cooktown:—Pt, Perth; Ay, Albany; Ea, Eucla; CB, Cape Borda; A, Adelaide; Re, Robe; P, Portland; M, Melbourne; W P, Wilson's Promontory; Go, Gabo; E, Eden; Ma, Moruya; C G, Jervis Bay; Wg, Wollongong; S, Sydney; N, Newcastle; P M, Port Macquarie; C, Clarence River; B, Brisbane; R, Rockhampton; Ct, Cooktown. Inland the state of barometer is given in figures at Albury, Deniliquin, Wentworth, Menindie, Bourke, and Alice Springs. The barometer curve enables one at a glance to trace the depressions, beginning with Western Australia, and passing along eastwards; northerly winds preceding them, and southerly following.

The rainfall on Sundays or holidays, when this map is not published, is in all cases included in the quantities shown by the next following map.

9 A.M. OBSERVATIONS.

Western Australia.—Fine in N.W.; cloudy and stormy in S.W. and S. parts; strong, squally S.E. to S.W. winds and moderate sea, with fierce squalls and very heavy sea on the south coast. Extremes of barometers and temperature: Perth, 30·34; Esperance Bay, 29·92 and 55·; Cossack, 84·.

South Australia.—Generally fine and warm; rising temperature; light to fresh N.E. to N. winds; smooth to moderate sea. Unsettled in the Northern Territory. Extremes of barometers and temperature: Cape Northumberland, 30·11 and 60·; Eucla, 29·56 and 89·.

Victoria.—Generally fine and cool throughout; light S.E. to N.E. winds: moderate sea. Extremes of barometers and temperature: Melbourne, 30·18 and 55·; Hamilton, 30·09; and Horsham, 74·.

Tasmania.—Generally fine; light variable winds; moderate sea. Extremes of barometers and temperature: Low Heads, 30·21; Falmouth, 30·13; Hobart, 56·.; and Southport, 49·.

New Zealand.—Fine, with S.W. winds in north and south parts; threatening, with strong west wind, in Cook Strait. Barometers: In north, 30·10; over centre, 29·70; in south, 29·60.

Queensland.—Generally fine, but more or less cloudy, and at places gloomy; light N.E. to S.E. winds; smooth sea. Heavy thunderstorms, with rain, occurred last night in the interior; from 0·70 to 1·90 inch rain was recorded. Extremes of barometers and temperature: Brisbane, 30·18; Cooktown, 29·95 and 83·; Roma, 70·.

New South Wales.—More or less cloudy and unsettled in the Eastern division; dull and threatening in N.W. parts; fine and clear over the remainder of the colony. Generally cool; light easterly winds; smooth sea. Only two stations report light rain fallen. Extremes of barometers and temperature: Port Macquarie, 30·31; Gabo, 30·15; Bourke, 75·; and Albury, 55·. (For further particulars see map.)

3 P.M. OBSERVATIONS.

South Australia.—Adelaide, S.W., 8, fine, temperature 84·.

Victoria.—Portland, S.E., 23, fine, sea smooth, temperature 61·; Cape Otway, E., 23, fine, sea moderate, temperature 58·; Melbourne, S.S.W., 13, fine, temperature 62·; Cape Schanck, E., 13, fine, sea moderate, temperature 58·; Wilson's Promontory, N.E., 18, fine but cloudy, sea smooth, temperature 55·; Lakes Entrance, E., 13, fine, temperature 66·; Omeo, calm, fine, temperature 61·.

New South Wales.—Menindie, N.E., fine and warm; Wentworth, S., 14, fine and warm, temperature 68·; Deniliquin, calm, fine, temperature 74·; Eden, N.E., 14, fine, sea smooth, temperature 61·; Moruya, N.E., 14, overcast and dull, sea smooth, temperature 64·; Cape St. George, E.S.E., 14, cloudy, sea smooth, temperature 64·; Sydney, E.N.E., 20, fine, sea moderate, temperature 66·; Newcastle, N.E., 56, fine; Port Macquarie, N.E., 28, overcast, sea smooth, temperature 69·; Clarence River, E.S.E., 42, fine, sea smooth, temperature 73·; Walgett, E., raining, temperature 67·; Dubbo, N.E., 14, fine, temperature 71·; Goulburn, calm, fine.

Queensland.—Thursday Island, S.E, 23, fine, temperature 85·; Townsville, S.E., 13, threatening, temperature 78·; Rockhampton, E.N.E., 23, fine but cloudy, temperature 77·; Cape Moreton, S.E., 13, cloudy, temperature 77·; Brisbane, E.S.E., 23, cloudy and gloomy, temperature 74·; Hughenden, N.E., 13, fine and hot; Boulia, S.E., 18, cloudy; Blackall, N.W., 13, heavy clouds and cool; Thargomindah, E.N.E., fine; Roma, N.E., 8, cloudy, temperature 79.

HEIGHT OF RIVERS ABOVE SUMMER LEVEL.

Macintyre: At Mungindi, low. Barwon: At Mogil Mogil, falling, 1ft. 9in.; at Walgett, falling, 3ft. 9in. Namoi: At Walgett, stationary, 3ft. Culgoa: At Goodooga, low. Darling: At Brewarrina, falling, 4ft. 6in.; at Louth, falling, 10ft.; at Wilcannia, falling, 30ft. 10in.; at Menindie, rising, 25ft. 9in.; at Pooncarie, 22ft. 9in.; at Wentworth, 21ft. 7in. Murrumbidgee: At Gundagai, stationary, 6ft.; at Wagga, 8ft. 6in.; at Hay, 13ft.; at Balranald, 16ft. 7in. Murray: At Albury, 10ft.; at Euston, 23ft. 5in.

ASTRONOMICAL MEMORANDA FOR OCTOBER 25.

Sun rises at 5.9, sets at 6.20; Moon, 12.38 p.m., 1.18 a.m.; Mercury, 6.11 a.m., 8.17 p.m.; Venus, 3.16 a.m., 3.17 p.m.; Mars, 2.47 a.m., 1.53 p.m.; Jupiter, 5.52 a.m., 7.17 p.m.; Saturn, 1.9 a.m., 11.27 a.m. Full moon, October 2; new moon, October 17.

High water at Fort Denison, October 25: 2.12 a.m., 2.46 p.m.

H. A. LENEHAN,
Acting Government Astronomer.

Stations.	W.T.	Mx	M'n	R'n
Albury ..	g	79	52	0
Armidale	c	70	53	0·84
Balranald	b	89	46	0
Bathurst	g	80	54	0
Bendem'r	u	88	57	0·52
Bodalla ..	u	65	53	0
Bourke ..	g	77	59	0·88
Bundarra	c	—	65	0·1
C'md'n H.	c	70	63	0
C. St. Geo.	g	65	60	0
Carcoar ..	n	68	45	0
Casino ..	o	80	61	0
Cassilis ..	r	74	62	0
Clarence ..	c	83	64	0
C'nd'b'lin	c	88	48	0
Cooma ..	c	80	40	0
Coonab'n.	r	83	57	0·96
Cowra ..	g	90	43	0
Cudg'llico	b	83	63	0
Deniliq'n.	b	90	45	0
Dubbo ..	r	85	59	0·21
Eden	-	—	—	-
Euston ..	b	89	40	0
Forbes ..	u	—	47	0
G'bo Isl'nd	u	64	56	0
Glen Inn's	u	74	53	0·17
Goulburn	b	81	48	0
Grafton ..	c	85	68	0
Gulgong .	u	78	34	0
Gunned'h	c	86	60	1·18
Hay	b	86	53	0
Inverell ..	c	80	55	0·55
Kiandra ..	n	72	28	[illegible]
Lismore .	c	86	62	[illegible]
Maitland .	c	82	60	0
M'n'ng H.	c	72	52	0
Marsdens.	b	83	62	0
Menindie.	o	86	53	0
Molong ..	g	69	59	0
M'r'ng'r'll	g	85	50	0
Moree ..	b	93	59	0·62
Moruya ..	u	70	56	0
Moss Vale	u	68	56	0
Mt. Hope	g	92	53	0
M. Vict'ria	f	74	47	0
Mudgee ..	r	80	55	0·01
M'rr'mb'h	c	82	52	0
M'rr'r'ndi	r	73	59	0·33
Mus'lbr'k	r	83	57	0
Narrabri	g	86	60	1·51
Newcastle	g	72	61	0
Orange ..	g	72	55	0
Picton ..	o	76	60	0
P. M'q'rie	c	73	62	0
P. St'ph'n	c	75	58	0
Q'nbeyan	b	80	42	0
Quirindi	r	83	60	0·54
Singleton	g	81	61	0
Sydney ..	c	69	63	0
Taralga ..	b	76	50	0
Taree	b	75	62	0
T'nt'rfield	u	79	42	0
Wagga ..	g	84	47	0
Walcha ..	r	70	48	0·23
Walgett	u	8	61	1·20
Warialda	-	—	—	-
Warrah ..	r	80	43	0·39
W'ntw'rth	b	87	55	0
W'll'ng'ng	g	74	59	0·03
Young ..	g	88	50	0

SYDNEY OBSERVATORY

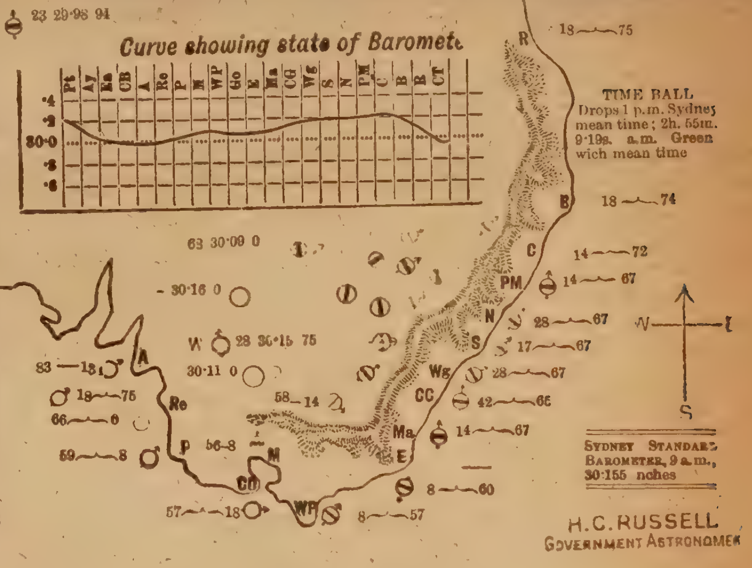
LATITUDE 33° 51' 41" S. LONGITUDE 10h. 4m. 50·81s. E.

MAGNETIC VARIATION, 9° 35' 37" E.

Average Annual Rainfall for 28 years.............. 49·489
Average for 29 years from Jan. 1 to Sep. 30 1887. .. 41·210
Total Rainfall from Jan. 1, to Oct. 25 1887 .... 49·004

Barometers corrected to 32° Fah. and Mean Sea Level

Fine. wind N. Cloudy wind E. T. storm, wind S. Rain, wind W.
If it is CALM, the symbol used without the arrow
Smooth sea.
Heavy sea.
Very heavy sea.



NOTES EXPLANATORY OF MAP.

In the list of stations the column headed W.T. gives the state of the weather at 9 a.m., b, standing for blue sky; c, detached clouds; d, drizzling rain; f, fog; g, gloomy; h, hazy; m, misty; n, frosty; o, overcast; p, passing showers; r, rain; s, snow; t, thunder; u, threatening. The next column, M'x gives the maximum temperature for previous 24 hours; M'n the corresponding minimum temperature; r'n, the rain for the previous 24 hours. The symbols used in the map are explained on the margin. At each coast station the wind symbol is placed like a vane pointing to the direction from which the wind is coming. A clear circle with it means fine weather; a circle with bar, cloudy weather; and a black spot, raining. Next to this symbol are placed figures denoting the number of miles the wind is moving per hour; next, a symbol showing the state of the sea; and, lastly, figures denoting the shade temperature at 9 a.m. The barometer curve shows the state of barometers round the coast from Perth to Cooktown:—Pt, Perth; Ay, Albany; Ea, Eucla; CB, Cape Borda; A, Adelaide; Re, Robe; P, Portland; M, Melbourne; W P, Wilson's Promontory; Go, Gabo; E, Eden; Ma, Moruya; C G, Jervis Bay; Wg, Wollongong; S, Sydney; N, Newcastle; P M, Port Macquarie; C, Clarence River; B, Brisbane; R, Rockhampton; Ct, Cooktown. Inland the state of barometer is given in figures at Albury, Deniliquin, Wentworth, Menindie, Bourke, and Alice Springs. The barometer curve enables one at a glance to trace the depressions, beginning with Western Australia, and passing along eastwards; northerly winds preceding them, and southerly following.

The rainfall on Sundays or holidays, when this map is not published, is in all cases included in the quantities shown by the next following map.

9 A.M. OBSERVATIONS.

Western Australia.—Fine in N.W. parts; cloudy, showery, and ...ually in south parts; fresh S. to E. winds, slight to moderate ... Rainfall: Esperance Bay, 1·16 inch. Extremes of barometers and temperature: Geraldton, 30·27; Esperance Bay, 29·91 ...d 54°; Cossack, 85°.

South Australia.—Generally fine and warm, with scattered ...ouds, tending to sultry weather; light to fresh E. to W. winds; ...mooth sea, but rough in Streaky Bay. Extremes of barometers ...d temperature: Cape Northumberland, 30·07 and 60°; Streaky ...ay, 29·83; and Alice Springs, 94°.

Victoria.—Generally fine and clear, but at places cloudy and ...ggy; light variable winds and calms; smooth sea. Extremes ...barometers and temperature: Melbourne, 30·10 and 56°: Bal...rat, 30·02; and 72°.

Tasmania.—Generally fine, but more or less cloudy; light ...riable winds; smooth to moderate sea. Extremes of baro...eters and temperature: Circular Head, 30·11 and 48°; Hobart, ...·06 and 55°.

New Zealand.—Generally fine, with fresh westerly winds, but ...E. in Cook Strait; rough sea on the west coast. Barometers: ...south, 29·80; to northward, 30·00.

Queensland.—Generally more or less cloudy and gloomy; ...ht N.E. to S.E. winds; smooth to moderate sea. Thunder...orms, with light rain, yesterday on the tropical seaboard and in ...e southern districts. Extremes of barometers and tempera...re: Roma, 30·18; Normanton, 29·91 and 85°; Cape Moreton, ...

New South Wales.—Fine in the Albert and Darling pastoral ...tricts; showery in the Bligh and Liverpool Plains pastoral ...tricts; over the remainder of the colony cloudy, dull, threaten...g weather prevails. Winds are light north-easterly generally, ...d sea smooth. During the night rather heavy rains fell in the ...oydon and Warrego pastoral districts, as well as the Bligh and ...verpool Plains country; several stations had from 1in. to 1½in., ...l many over ½in.. Extremes of barometers and temperature: ...arence, 30·21; Gabo, 30·04; Hay, 75°; and Cooma and Kiandra ... (For further particulars see map.)

3 P.M. OBSERVATIONS.

Victoria.—Portland, E.S.E., 23, fine, sea smooth, temperature ...; Cape Otway, E.S.E., 28, fine, sea moderate, temperature 59°; Melbourne, S.S.W., 8, fine, temperature 74°; Cape Schanck, E., 13, fine but cloudy, sea smooth, temperature 59°; Wilson's Promontory, N.E., 8, fine but cloudy, sea smooth, temperature 59°; Lakes Entrance, E., 18, fine but cloudy, temperature 65°; Omeo, N.E., 18, cloudy, temperature 75°.

South Australia.—Adelaide, S.W., 8, fine, temperature 88°.

New South Wales.—Wilcannia, S.S.E., 28. fine and hot, temperature 88°; Wentworth. S.W., fine and warm, temperature 75°; Deniliquin, calm, fine, temperature 80°; Eden, E.N.E., 14, fine, sea smooth, temperature 66°; Moruya, N.E., 42, cloudy, sea moderate, temperature 66°.; Cape St. George, N.E., 42, dull, sea rough, temperature 65°; Sydney, N.E., 18, cloudy, sea moderate, temperature 66°; Newcastle, W.N.W., 14, dull, sea smooth, temperature 66°; Clarence River, E., 14, dull, sea smooth, temperature 72°; Walgett, S.S.E., cloudy, like a storm, temperature 70°.

Queensland.—Townsville, E., 13, fine, sea smooth, temperature 80°; Mackay, S.E., 13, cloudy and dull, like rain; Rockhampton, E., 23, fine but cloudy, temperature 78°; Cape Moreton, S.W., 13, cloudy, temperature 72°; Brisbane, E., 23, overcast, temperature 72°; Hughenden, S.W., 28, fine and hot; Boulia, S., 8, fine and hot; Blackall, N.W., 8, cloudy, like rain; Thargomindah, S.E., fine; Roma, N.E., 13, fine, temperature 78.

HEIGHT OF RIVERS ABOVE SUMMER LEVEL.

Macintyre: At Yetman, low; at Mungindi, low. Barwon: At Mogil Mogil, low; at Walgett, falling, 3ft. Namoi: At Walgett, falling, 3ft. Culgoa: At Goodooga, low. Darling: At Bourke, falling, 9ft. 5in.; at Louth, falling, 9ft. 6in.; at Tilpa, falling, 20ft.; at Wilcannia, falling, 30ft. 2in.; at Menindie, 25ft. 9in.; at Pooncarie, 22ft. 10in.; at Wentworth, 21ft. 7in. Murrumbidgee: At Gundagai, stationary, 6ft.; at Wagga, 8ft. 3in.; at Hay, falling, 12ft. 10in.; at Balranald, 16ft. 6in. Murray: At Albury, 9ft.; at Euston, 23ft. 5in.

ASTRONOMICAL MEMORANDA FOR OCTOBER 26.

Sun rises at 5.8, sets at 6.21; Moon, 1.33 p.m., 1.58 a.m.; Mercury, 6.11 a.m., 8.19 p.m.; Venus, 3.14 a.m.. 3.15 p.m.; Mars, 2.45 a.m., 1.52 p.m.; Jupiter, 5.49 a.m., 7.14 p.m.; Saturn, 1.5 a.m., 11.23 a.m. Full moon, October 2; new moon, October 17.

High water at Fort Denison, October 26: 3.20 a.m., 3.55 p.m.

H. A. LENEHAN,
Acting Government Astronomer.

Stations.	wt	Mx	m	Rn.
Albury ..	u	85	62	0
Armidale	b	63	55	0·02
Balranald	c	99	55	0·44
Bathurst	u	74	55	0·05
Bendem'r	g	62	51	0·05
Bodalla ..	g	73	60	0
Bourke ..	r	89	69	0·03
Bundarra	g	—	63	0·10
C'md'n H.	c	73	64	0
C. St. Geo.	b	74	62	0
Carcoar ..	c	68	46	0
Casino ..	u	82	56	0
Cassilis ..	o	62	57	0·01
Clarence .	c	83	65	0·13
C'nd'b'lin	c	88	48	0
Cooma ..	u	80	55	0
Coonab'n.	u	71	58	0·18
Cowra ..	b	80	59	0
Cudg'llico	c	75	64	0
Deniliq'n.	g	92	56	0·10
Dubbo ..	b	74	51	0
Eden	b	69	60	0
Euston ..	g	98	57	1·00
Forbes ..	g	—	48	0
G'bo Isl'nd	u	69	58	0
Glen Inn's	g	65	54	0·10

● —— 54
EUCLA

Goulburn	b	73	53	0
Grafton ..	c	81	61	0
Gulgong .	r	68	41	0·04
Gunned'h	c	74	57	0
Hay	o	89	42	0·28
Inverell . .	h	70	57	0
Kiandra . .	u	75	49	0
Lismore . .	g	74	61	0·01
Maitland .	b	80	64	0
M'n'ng H.	b	74	62	0
Marsdens.	c	77	65	0
Menindie.	b	86	67	0·48
Molong ..	o	71	53	0
M'r'ng'r'll	o	79	59	0
Moree ..	g	75	60	0
Moruya ..	c	73	60	0
Moss Vale	u	66	58	0

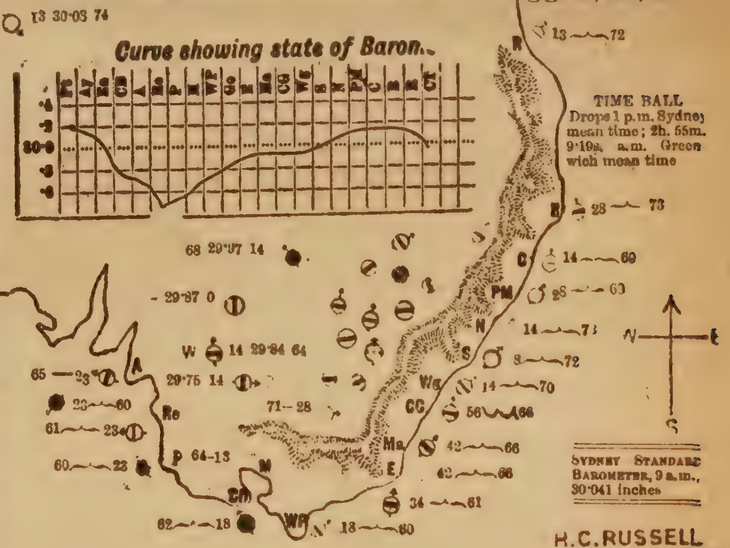
SYDNEY OBSERVATORY.

LATITUDE 33° 51' 41" S. LONGITUDE 10h. 4m. 50·81s. E.
MAGNETIC VARIATION, 9° 35' 37" E.

Average Annual Rainfall for 28 years .... 49·480
Average for 29 years from Jan. 1 to Sep. 30 1887 .. 41·210
Total Rainfall from Jan. 1, to Oct. 27 1887 ...... 49·057

Barometers corrected to 32° Fah. and Mean Sea Level

Fine, wind N. ... wind S. T. storm, wind S. Rain, wind W.
If it is CALM, the symbol used without the arrow
Smooth sea.
Heavy sea.
Very heavy sea.



TIME BALL
Drops 1 p.m. Sydney mean time; 2h. 55m. 9·19s. a.m. Greenwich mean time

N — E — S

SYDNEY STANDARD BAROMETER, 9 a.m., 30·041 inches

H. C. RUSSELL
GOVERNMENT ASTRONOMER

Mt. Hope	o	80	64	0
M. Vict'ria	g	70	52	0·04
Mudgee ..	u	71	54	0·21
M'rr'mb'h	–	—	—	–
M'rr'r'ndi	b	68	59	0·13
Mus'lbr'k	b	79	54	0
Narrabri	g	72	65	0
Newcastle	b	74	60	0
Orange ..	o	69	56	0
Picton ..	u	72	61	0
P. M'q'rie	b	79	62	0
P. St'ph'n	c	75	60	0
Q'nbeyan	c	77	45	0
Quirindi	u	77	59	0
Singleton	b	74	61	0
SYDNEY ..	c	73	63	0
Taralga ..	g	79	45	0
Taree	b	78	62	0
T'nt'rfield	g	78	50	0
Wagga ..	g	85	58	0
Walcha ..	o	65	48	0
Walgett	c	72	63	0·03
Warialda	g	73	57	0
Warrah ..	b	72	50	0·04
W'ntw'rth	c	82	59	0·27
W'll'ng'ng	g	76	60	0
Young ..	g	88	46	0

NOTES EXPLANATORY OF MAP.

In the list of stations the column headed W.T. gives the state of the weather at 9 a.m., b, standing for blue sky; c, detached clouds; d, drizzling rain; f, fog; g, gloomy; h, hazy; m, misty; n, frosty; o, overcast; p, passing showers; r, rain; s, snow; t, thunder; u, threatening. The next column, M'x gives the maximum temperature for previous 24 hours; M'n the corresponding minimum temperature; r'n, the rain for the previous 24 hours. The symbols used in the map are explained on the margin. At each coast station the wind symbol is placed like a vane pointing to the direction from which the wind is coming. A clear circle with it means fine weather; a circle with bar, cloudy weather; and a black spot, raining. Next to this symbol are placed figures denoting the number of miles the wind is moving per hour; next, a symbol showing the state of the sea; and, lastly, figures denoting the shade temperature at 9 a.m. The barometer curve shows the state of barometers round the coast from Perth to Cooktown:—Pt, Perth; Ay, Albany; Ea, Eucla; CB, Cape Borda; A, Adelaide; Re, Robe; P, Portland; M, Melbourne; W P, Wilson's Promontory; Go, Gabo; E, Eden; Ma, Moruya; C G, Jervis Bay; Wg, Wollongong; S, Sydney; N, Newcastle; P M, Port Macquarie; C, Clarence River; B, Brisbane; R, Rockhampton; Ct, Cooktown. Inland the state of barometer is given in figures at Albury, Deniliquin, Wentworth, Menindie, Bourke, and Alice Springs. The barometer curve enables one at a glance to trace the depressions, beginning with Western Australia, and passing along eastwards; northerly winds preceding them, and southerly following.

The rainfall on Sundays or holidays, when this map is not published, is in all cases included in the quantities shown by the next following map.

9 A.M. OBSERVATIONS.

Western Australia.—Fine in N.W. parts; fine but unsettled in south; light easterly winds; smooth sea. Extremes of barometers and temperature: Geraldton, 30·17; Ashburton, 30·01; Carnarvon, 82°; and Albany, 54°.

South Australia.—Generally cloudy and unsettled south of Hawker; more or less cloudy to northward; fresh N.E. to N.W. in east parts; light westerly winds in west; smooth to moderate sea. Rainfall: South of Peake, generally from 0·75in. to 1·25in.; inland, from 0·28in. to 0·64in.; 24 stations report over an inch. Extremes of barometers and temperature: Alice Springs, 30·03; Cape Northumberland, 29·51 and 58°.

Victoria.—Generally cloudy, sultry, and showery weather, with thunderstorms; light N.E. to N. winds; at places, rather strong, hot, northerly winds; smooth to moderate sea. Rainfall: Generally less than 0·50in.; but 0·57in. at Horsham, Echuca, and Swan Hill. Extremes of barometers and temperature: Lakes Entrance, 29·74; Portland, 29·51; Horsham, 68°; and Wilson's Promontory, 60°.

Tasmania.—Generally cloudy and showery; fresh northerly winds; rough sea. Extremes of barometers and temperature: Falmouth, 29·73 and 56°; Circular Heads, 29·63; and Hobart, 70.

New Zealand.—Generally fine, with light variable winds and smooth sea. Barometers: In north, 30·40; to southward, 30·30.

Queensland.—Fine in extreme north; showery, with thunderstorms on the Darling Downs; cloudy and unsettled over the remainder of the colony; fresh easterly winds; moderate sea. Rainfall: In south and S.W. parts up to 0·50 inch. Extremes of barometers and temperature: Brisbane, 30·19 and 73°; Normanton, 29·86 and 84°.

New South Wales.—Generally cloudy, gloomy, and unsettled, but fine in central coast districts; heavy thunderstorms at Balranald and Deniliquin from 4.30 a.m. until midday, and heavy wind and rain storm at Cooma; stormy and showery at scattered places west of the Dividing Ranges; winds are generally fresh to strong northerly; the sea smooth to moderate, but rough at Cape St. George. During the past 24 hours light rains fell partially over the colony, except in the S.E. portion. Extremes of barometers and temperature: Clarence, 30·18; Deniliquin, 29·75; Wagga Wagga, 75°; and Kiandra, 55°. (For further particulars see map.)

3 P.M. OBSERVATIONS.

Victoria.—Portland, W., 40, passing showers, sea slight, temperature 64°; Cape Otway, N., 18, cloudy and gloomy, sea slight, temperature 50°; Melbourne, N.N.E., 13, cloudy, gloomy, and threatening, temperature 70°; Cape Schanck, W. 28, cloudy and squally; sea moderate, temperature 67°; Wilson's Promontory, N.N.E., 13, cloudy and gloomy, sea slight, temperature 62°; Lakes Entrance, W., 8, cloudy and gloomy, temperature 70°; Omeo, N., 23, showery, temperature 64°.

New South Wales.—Deniliquin, calm, fine but cloudy, temperature 71°; Moruya, W., 42, raining thick, sea moderate, temperature 58°; Cape St. George, N.E., 56, threatening, sea rough, temperature 65°; Sydney, N.E., 12, cloudy and threatening, sea moderate, temperature 70°; Newcastle, N.E., 28, cloudy, sea smooth, temperature 71°; Port Macquarie, N.N.E., 42, dull, sea moderate, temperature 73°; Clarence River, N.E., 28, dull, sea lumpy, temperature 73°; Walgett, N.E., dull and threatening, temperature 72°; Goulburn, N.W., showery, temperature 68°; Molong, calm, thunderstorm, with heavy rain.

Queensland.—Townsville, S.E., 18, fine, sea smooth, temperature 78°; Mackay, S.E., 18, fine; Rockhampton, E.N.E., 23, fine but cloudy, temperature 77°; Cape Moreton, N.E., 23, cloudy and gloomy, temperature 72°; Brisbane, N., 28, showery, temperature 74°; Hughenden, cloudy and calm; Boulia, N.W., 18, fine; Blackall, N.E., cloudy and threatening; Roma, N.E., 23, cloudy, temperature 80°.

HEIGHT OF RIVERS ABOVE SUMMER LEVEL.

Macintyre: At Yetman, low; at Mungindi, low. Barwon: At Mogil Mogil, low; at Walgett, low. Namoi: At Walgett, stationary, 3ft. Culgoa: At Goodooga, low. Darling: At Brewarrina, stationary, 4ft.; at Bourke, falling, 8ft. 5in.; at Louth, falling, 7ft. 6in.; at Tilpa, falling, 17ft.; at Wilcannia, falling, 27ft. 10in.; at Menindie, 25ft. 9in.; at Pooncarie, 22ft. 7in.; at Wentworth, 21ft. 9in. Murrumbidgee: At Gundagai, stationary, 6ft.; at Wagga, 8ft.; at Hay, falling, 12ft. 3in.; at Balranald, 16ft. 4in. Murray: At Albury, 8ft. 9in.; at Euston, 23ft. 5in.

ASTRONOMICAL MEMORANDA FOR OCTOBER 28.

Sun rises at 5.6, sets at 6.23; Moon, 3.20 p.m., 3.9 a.m.; Mercury, 6.10 a.m., 8.22 p.m.; Venus, 3.10 a.m., 3.10 p.m.; Mars, 2.40 a.m., 1.50 p.m.; Jupiter, 5.42 a.m., 7.8 p.m.; Saturn, 12.58 a.m., 11.16 a.m. Full moon, October 2; new moon, October 17.

High water at Fort Denison, October 28: 5.31 a.m., 5.57 p.m.

H. A. LENEHAN,
Acting Government Astronomer.

Stations.	W.T.	Mx	Mn	Rn.
Albury ..	u	75	60	1·00
Armidale	c	71	55	0
Balranald	b	92	53	0
Bathurst	u	65	55	0·36
Bendem'r	g	70	52	0·06
Bodalla ..	g	71	61	0·12
Bourke ..	g	81	66	0·31
Bungarra	c	—	60	0
C'md'n H.	c	76	66	0
C. St. Geo.	g	73	60	0
Carcoar ..	g	67	46	0·23
Casino ..	b	81	55	0
Cassilis ..	o	68	59	0·11
Clarence .	c	76	67	0
C'nd'b'lin	u	88	47	0·40
Cooma ..	c	76	52	0·34
Coonab'n.	g	68	56	0·22
Cowra ..	g	71	65	0·23
Cudg'llico	g	80	62	0
Deniliq'n.	c	92	41	0·24
Dubbo ..	b	70	53	0·33
Eden	u	69	60	0·04
Euston ..	c	97	50	0
Forbes ..	g	—	47	0·03
G'bo Isl'nd	c	69	59	0
Glen Inn's	o	71	56	0
Goulburn	u	71	53	0·25
Grafton ..	u	74	61	0
Gulgong .	u	68	45	0·28
Gunned'h	c	73	60	0
Hay	c	80	55	0·11
Inverell. .	c	75	59	0
Kiandra. .	u	75	41	2·02
Lismore .	b	81	65	0·04
Maitland .	b	88	64	0
M'n'ng H.	b	77	63	0
Marsdens.	u	71	66	0·60
Menindie.	b	83	60	0
Molong ..	o	71	40	0·81
M'r'ng'r'll	r	73	61	0·55
Moree ..	g	76	60	0
Moruya . .	g	71	51	0·12
Moss Vale	c	68	59	0·06
Mt. Hope	c	85	64	0·26
M. Vict'ria	g	66	54	0·07
Mudgee ..	u	75	49	0·38
M'rr'mb'h	r	68	55	0·69
M'rr'r'ndi	g	71	63	0
Mus'lbr'k	g	82	56	0·02
Narrabri	g	80	65	0
Newcastle	g	79	62	0
Orange ..	g	62	57	0·58
Picton ..	c	80	57	0·01
P. M'q'rie	c	75	63	0
P. St'ph'n	c	78	60	0·30
Q'nbeyan	r	80	43	1·54
Quirindi	u	76	60	0
Singleton	b	81	61	0
Sydney ..	c	73	63	0·02
Taralga ..	g	72	38	0·21
Taree	o	84	63	0·01
T'nt'rfield	g	77	50	0
Wagga ..	c	79	52	1·58
Walcha ..	o	68	49	0
Walgett	b	66	55	0
Warialda	c	76	65	0
Warrah ..	g	75	57	0
W'ntw'rth	b	79	52	0
W'll'ng'ng	g	74	62	0
Young ..	r	70	58	0·74

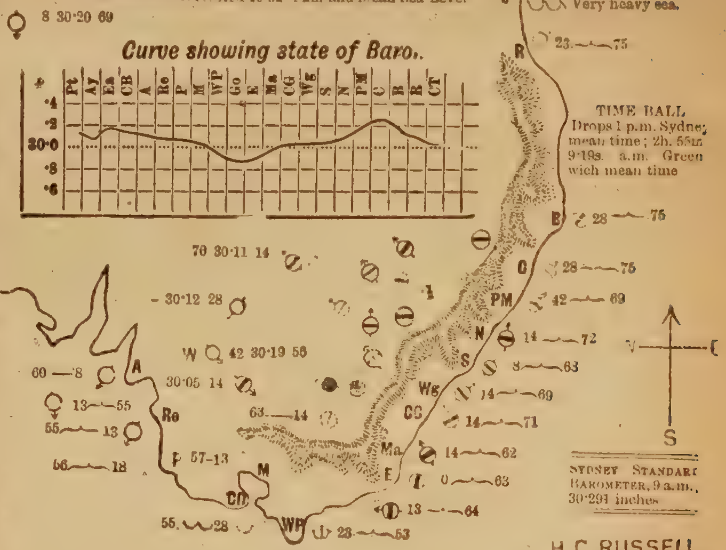
SYDNEY OBSERVATORY.

LATITUDE 33° 51' 41" S. LONGITUDE 10h. 4m. 50·81s. E.
MAGNETIC VARIATION, 9° 35' 37" E.

Average Annual Rainfall for 28 years .... 49·489
Average for 29 years from Jan. 1 to Sep. 30 1887.. .. 41·210
Total Rainfall from Jan. 1, to Oct. 28 1887 ..... 49·080

Barometers corrected to 32° Fah. and Mean Sea Level

Fine, wind N. Cloudy, wind E. T. storm, wind S. Rain, wind W.
If it is CALM, the symbol used without the arrow
Smooth sea.
Heavy sea.
Very heavy sea.



TIME BALL
Drops 1 p.m. Sydney mean time; 2h. 55m. 9·19s. a.m. Greenwich mean time

SYDNEY STANDARD BAROMETER, 9 a.m., 30·291 inches

H. C. RUSSELL
GOVERNMENT ASTRONOMER

NOTES EXPLANATORY OF MAP.

In the list of stations the column headed W.T. gives the state of the weather at 9 a.m., b, standing for blue sky; c, detached clouds; d, drizzling rain; f, fog; g, gloomy; h, hazy; m, misty; n, frosty; o, overcast; p, passing showers; r, rain; s, snow; t, thunder; u, threatening. The next column, M'x gives the maximum temperature for previous 24 hours; M'n the corresponding minimum temperature; r'n, the rain for the previous 24 hours. The symbols used in the map are explained on the margin. At each coast station the wind symbol is placed like a vane pointing to the direction from which the wind is coming. A clear circle with it means fine weather; a circle with bar, cloudy weather; and a black spot, raining. Next to this symbol are placed figures denoting the number of miles the wind is moving per hour; next, a symbol showing the state of the sea; and, lastly, figures denoting the shade temperature at 9 a.m. The barometer curve shows the state of barometers round the coast from Perth to Cooktown:—Pt, Perth; Ay, Albany; Ea, Eucla; CB, Cape Borda; A, Adelaide; Re, Robe; P, Portland; M, Melbourne; W P, Wilson's Promontory; Go, Gabo; E, Eden, Ma, Moruya; C G, Jervis Bay; Wg, Wollongong; S, Sydney; N, Newcastle; P M, Port Macquarie; C, Clarence River; B, Brisbane; R, Rockhampton; Ct, Cooktown. Inland the state of barometer is given in figures at Albury, Deniliquin, Wentworth, Menindie, Bourke, and Alice Springs. The barometer curve enables one at a glance to trace the depressions, beginning with Western Australia, and passing along eastwards; northerly winds preceding them, and southerly following.

The rainfall on Sundays or holidays, when this map is not published, is in all cases included in the quantities shown by the next following map.

9 A.M. OBSERVATIONS.

Western Australia.—Fine, with clouds at scattered places; light variable winds and calms; smooth sea. Extremes of barometers and temperature: Perth, 30·17; Albany, 29·99 and 59·; Geraldton, 84·.

South Australia.—Generally fine, pleasant weather, with scattered clouds; light S. to W. winds and calms; smooth sea. Rainfall: Generally south of Strangways Springs, from 0·01 to 0·30 inch; Clarendon, 0·54; and Crafers, 0·44 inch. Extremes of barometers and temperature: Farina, 30·25; Port Darwin, 29·88 and 90·; Cape Northumberland, 55·.

Victoria.—Fine, but more or less cloudy generally; threatening at places on the coast; fresh W. to S.W. winds; moderate to rather rough sea. Rainfall: Generally from 0·10 to 0·50 inch; heaviest on the coast. Extremes of barometers and temperature: Melbourne, 30·07; Wilson's Promontory, 29·99; Hamilton, 52·; and Omeo, 66·.

Tasmania.—Cloudy and unsettled; fresh westerly winds; moderate to rough sea. No rain fallen. Extremes of barometers and temperature: Low Heads, 29·91; Hobart, 29·80 and 52·; Falmouth, 64·.

New Zealand.—Fine generally; light, variable winds; fresh south-easterly wind in north parts. Barometers: In north, 30·40; to southward, 30·30.

Queensland.—Fine in north; more or less cloudy and unsettled in S.E. parts; showery at Cape Moreton. Yesterday light rain fell in the Moreton and Wide Bay districts, and in West Maranoa district. Thunderstorms with rain occurred in the northern interior. Extremes of barometers and temperature: Brisbane, 30.22; Thursday Island, 29·94; Normanton, 87·, unusually hot; and Cape Moreton, 70·.

New South Wales.—Cloudy, gloomy, and unsettled generally, except in extreme S.W. parts, where fine weather prevails. It is raining heavily, with thunderstorms, in the districts between the Upper Lachlan and Murrumbidgee Rivers. Winds are generally light to fresh, and at places strong north to westerly; the sea smooth to moderate. During the past 24 hours light rains fell generally over the colony, except in extreme N.W. and S.E. parts. Heavy rain fell in the districts of the Upper Murrumbidgee and Murray, where seven stations recorded from one to over two inches. Extra stations: Rainfall—Temora, 1·99in.; Tumut, 2·64in. Extremes of barometers and temperature: Clarence, 30·23 and 75·; Gabo, 29·86; and Wentworth, 56·. (For further particulars see map.)

3 P.M. OBSERVATIONS.

Victoria.—Portland, S.W., 23, fine, smooth sea, temperature 57·; Cape Otway, W., 18, fine, temperature 59·; Melbourne, S., 13, cloudy, temperature 56·; Cape Schanck, S., 13, cloudy, temperature 62·; Wilson's Promontory, W.S.W., 23, cloudy, moderate sea, temperature 54·; Lakes Entrance, W.S.W., 28, cloudy, temperature 58·; Omeo, S., 18, cloudy and gloomy, temperature 51·.

New South Wales.—Menindie, S.W., 28, fine and cool, temperature 69·; Wentworth, S.W., cloudy and dull, temperature 60·; Deniliquin, calm, fine, temperature 72·; Eden, S., 14, fine, smooth sea, temperature 65·; Moruya, calm, gloomy, moderate sea, temperature 65·; Cape St. George, S.S.W., 42, fine, moderate sea, temperature 66·; Sydney, N.E., 16, fine, but cloudy, moderate sea, temperature 71·; Newcastle, W., dull, smooth sea, temperature 74·; Port Macquarie, N.N.E., 42, dull, moderate sea, temperature 73·; Clarence River, N.E., strong, cloudy, lumpy sea, temperature 73·; Walgett, N.E., showery, with thunderstorm, temperature 75·; Dubbo, N.W., 14, thunderstorm, temperature 70·; Goulburn, calm, raining, temperature 67·.

Queensland.—Townsville, S.E., 18, fine, temperature 80·; Mackay, E., 18, fine; Rockhampton, E., 23, fine, temperature 79·; Cape Moreton, E.N.E., 18, cloudy, temperature 71·; Brisbane, N., 28, unsettled; Hughenden, S.E., 14, threatening rain; Boulia, S.W., 18, fine; Blackall, N., 8, fine and hot; Roma, N.E., 13, fine, temperature 75·.

HEIGHT OF RIVERS ABOVE SUMMER LEVEL.

Macintyre: At Yetman, low; at Mungindi, low. Barwon: At Mogil Mogil, low; at Walgett, low. Namoi: At Walgett, stationary, 3ft. Culgoa: At Goodooga, low. Darling: At Brewarrina, stationary, 4ft.; at Bourke, falling, 8ft.; at Louth, falling, 7ft.; at Tilpa, falling, 16ft.; at Wilcannia, falling, 27ft.; at Menindie, 28ft. 9in.; at Pooncarie, 22ft. 6in.; at Wentworth, 21ft. 9in. Murrumbidgee: At Gundagai, rising, 6ft. 3in.; at Wagga, 8ft.; at Hay, falling, 12ft.; at Balranald, 16ft. 4in. Murray: At Albury, 8ft. 8in.; at Euston, 23ft. 2in.

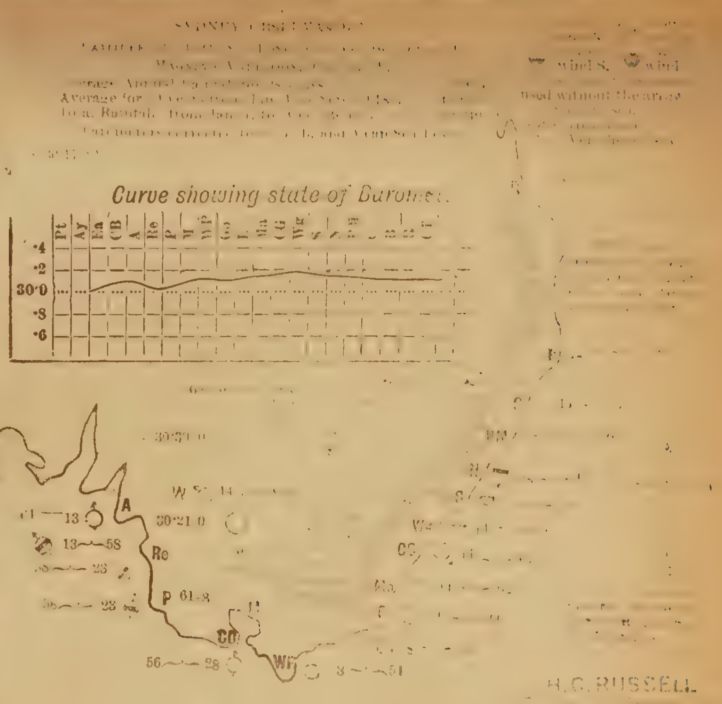
ASTRONOMICAL MEMORANDA FOR OCTOBER 29.

Sun rises at 5.4, sets at 6.24; Moon, 4.13 p.m., 3.40 a.m.; Mercury, 6.9 a.m., 8.22 p.m.; Venus, 3.8 a.m., 3.9 p.m.; Mars, 2.38 a.m., 1.49 p.m.; Jupiter, 5.39 a.m., 7.5 p.m.; Saturn, 12.54 a.m., 11.11 a.m. Full moon, October 2; new moon, October 17.

High water at Fort Denison, October 29: 6.23 a.m., 6.45 p.m.

H. A. LENEHAN,
Acting Government Astronomer.

Stations.	W.T.	M'x	m'n	R'n
Albury	b	75	[illegible]	[illegible]
Armidale	g	74	57	0·50
Balranald	b	101	49	0
Bathurst	b	[illegible]	[illegible]	[illegible]
Bendem'r	g	86	57	0·80
Bodalla ..	b	72	51	[illegible]
Bourke	b	91	[illegible]	0
Buncarra	g	—	58	0·13
C'md'n H.	c	78	6[illegible]	[illegible]
C.St.Geo.	b	75	52	0·09
Carcoar ..	b	68	38	0·47
Casino ..	u	82	58	0
Cassilis ..	b	64	47	0·20
Clarence .	c	71	66	0
C'nd'b'lin	b	88	51	0·06
Cooma ..	c	68	49	0·55
Coonab'n.	b	77	50	0·62
Cowra ..	b	72	52	2·00
Cudg'llico	b	81	46	0
Deniliq'n.	b	75	53	0
Dubbo ..	b	77	45	0·98
Eden	b	69	50	0·51
Euston ..	b	70	44	0
Forbes ...	b	—	48	0·71
G'bo Isl'nd.	b	70	51	0·34
Glen Inn's	u	81	58	0·13
Goulburn	g	70	54	0·86
Grafton ..	u	84	66	0·01
Gulgong .	t	71	38	0·65
Gunned'h	b	83	62	0·56
Hay	b	75	44	0·02
Inverell ..	c	78	64	0·13
Kiandra ..	n	67	27	1·05
Dismore .	b	82	62	0
Maitland .	g	85	61	0·20
M'n'ng H.	b	78	60	0·17
Marsdens.	b	72	55	1·43
Menindie.	b	69	57	0
Molong ..	b	73	44	0·56
M'r'ng'r'll	b	72	48	0·76
Moree	b	85	63	0·12
Moruya ..	b	69	51	0·41
Moss Vale	c	73	47	0·92



Mt. Hope	b	80	48	0
M, Vict'ria	b	68	44	0·40
Mudgee ..	f	7[illegible]	45	0·60
M'rr'mb'h	b	[illegible]	[illegible]	0·46
M'rr'r'ndi	b	7[illegible]	[illegible]	0·82
Mus'lbr'k	g	83	5[illegible]	0·22
Narrabri	g	86	63	0·14
Newcastle	g	78	[illegible]	0·33
Orange ..	b	67	51	1·51
Picton ..	u	80	53	0·42
P. M'q'rie	c	73	62	0·31
P. St'ph'n	c	79	66	0·36
Q'nbeyan	c	73	37	0·51
Quirindi	b	80	60	0·38
Singleton	g	81	61	0·48
SYDNEY ..	c	76	57	0·26
Taralga ..	b	69	42	0·90
Taree	c	8[illegible]	61	0·24
Tnt'rfield	u	[illegible]	[illegible]	0
Wagga ..	b	80	38	0·07
Walcha ..	g	69	51	0·57
Walgett	b	65	59	0
Warialda	c	94	60	0·10
Warrah ..	b	77	58	0·31
W'ntw'rth	b	71	48	0
W'll'ng'ng	c	75	50	1·30
Young ..	b	65	41	0·64

NOTES EXPLANATORY OF MAP.

In the list of stations the column headed W.T. gives the state of the weather at 9 a.m., b, standing for blue sky; c, detached clouds; d, drizzling rain; f, fog; g, gloomy; h, hazy; m, misty; n, frosty; o, overcast; p, passing showers; r, rain; s, snow; t, thunder; u, threatening. The next column M'x gives the maximum temperature for previous 24 hours; M'n the corresponding minimum temperature; R'n, the rain for the previous 24 hours. The symbols used in the map are explained on the margin. At each coast station the wind symbol is placed like a vane pointing to the direction from which the wind is coming. A clear circle with [illegible] fine weather; a circle with bar, cloudy weather; and a black spot, raining. Next to this symbol are placed figures denoting the number of miles the wind is moving per hour; next, a symbol showing the state of the sea; and, lastly, figures denoting the shade temperature at 9 a.m. The barometer curve shows the state of barometers round the coast from Perth to Cooktown:—Pt, Perth; Ay, Albany; Ea, Eucla; CB, Cape Borda; A, Adelaide; Re, Robe; P, Portland; M, Melbourne; W P, Wilson's Promontory; Ga, Gabo; E, Eden; Ma, Moruya; C G, Jervis Bay; Wg, Wollongong; S, Sydney; N, Newcastle; P M, Port Macquarie; C, Clarence River; B, Brisbane; R, Rockhampton; Ct, Cooktown. Inland the state of barometer is given in figures at Albury, Deniliquin, Wentworth, Menindie, Bourke, and Alice Springs. The barometer curve enables one at a glance to trace the depressions, beginning with Western Australia, and passing along eastwards; northerly winds preceding them, and southerly following.

The rainfall on Sundays or holidays, when this map is not published, is in all cases included in the quantities shown by the next following map.

9 A.M. OBSERVATIONS.

Western Australia.—Fine throughout, with the exception of Albany, where it is overcast and gloomy. Wind variable, S.E. at Ashburton and Carnarvon, N.N.E. at Germanton, N.W. at Albany, W. at Esperance Bay, and calm at Cossack and Perth. Smooth sea, except at Carnarvon, where it is rough. Extremes of barometers and temperature: Germanton, 30·14; Ashburton and Carnarvon, 30·01; Ashburton, 84°; and Esperance Bay, 61°.

South Australia.—Generally fine, pleasant weather, with scattered clouds; cloudy and unsettled in the Northern Territory; light N. to N.W. winds; moderate sea. During the night thunderstorms occurred between Katherine and Port Darwin. Rainfall: Yam Creek, 0·55in.; and Daly Waters, 0·61in. Extremes of barometers and temperature: Farina, 30·18; Port Darwin, 29·88 and 98°; Cape Northumberland, 57°.

Victoria.—Generally fine, with scattered clouds; light N. to W. winds; moderate sea. Rainfall: Up to 0·34in. at a few scattered places. Extremes of barometers and temperature: Cape Schanck, 30·15; Portland, 30·02; Horsham, 64°; Wilson's Promontory, 54°.

Tasmania.—Generally fine weather, light N.E. to N.W. winds; smooth to moderate sea. Rainfall, from 0.06 to 0.15 inch. Extremes of barometers and temperature: Falmouth, 30·08 and 55°; Southport, 29·92 and 56°.

New Zealand.—Generally fine, with S.E. winds in north, and westerly winds to southward. Barometers: In south parts, 30·3; to northward, 30·2.

Queensland.—Fine inland, with N.E. winds in north, and S.E. winds in south; gloomy on the tropical coast; scattered clouds throughout south-eastern Queensland, with light N.N.E. winds. Yesterday thunderstorms, with light rain, occurred in the Bourke and York districts, and in S.W. parts there were heavy showers; St. George reports 0.90in. rain fallen. Extremes of barometers and temperature: Brisbane, 30·12; Normanton, 29·91; Cape Moreton, 72°; and Cooktown, 79°.

New South Wales.—Cloudy and unsettled along the coast; over the remainder of the colony, fine, clear weather prevails. Winds are light, variable, or calm inland; chiefly southerly along the coast. The sea is smooth to moderate. During the past 24 hours rains fell throughout the eastern and central territorial divisions, generally from ¼ to ¾ in.; on the south coast, up to 1in.; and in the districts of the Upper Murray, Murrumbidgee, and Lachlan, up to 2in. Extra stations: Coonamble, 0.33, and Camden, 0.75 in. rain fallen. Extremes of barometers and temperature: Menindie, 30·30; Gabo, 30·04; Clarence, 72°; and Cooma, 45°. (For further particulars see map.)

5 P.M. OBSERVATIONS.

Victoria.—Portland, W.N.W., 31, cloudy, like rain, smooth sea, temperature 64°; Cape Otway, N.W., 18, overcast, like rain, moderate sea, temperature 74°; Wilson's Promontory, W.S.W., 13, fine, but cloudy, smooth sea, temperature 58°; Omeo, N.E., 13, cloudy, rain 0·21in., temperature 62°.

New South Wales.—Menindie, calm, fine, temperature 70°; Wentworth, W., 14, fine, temperature 68°; Deniliquin, calm, fine, temperature 71°; Eden, E., 14, fine, smooth sea, temperature 60°; Moruya, N.E., 28, fine, smooth sea, temperature 67°; Cape St. George, E., 26, fine, smooth sea, temperature 62°; Sydney, S.E., fine, but cloudy, smooth sea; Newcastle, S.S.E., 14, fine, smooth sea, temperature 64°; Port Macquarie, S., 32, sultry and fine, smooth sea, temperature 73°; Clarence River, S., 12, fine, smooth sea, temperature 73°; Walgett, calm, fine, temperature 78°; Dubbo, W., 14, fine, temperature 70°.

Queensland.—Townsville, S.E., 13, fine, smooth sea, temperature 80°; Mackay, E., 13, fine; Rockhampton, N.E., 18, fine, but cloudy, temperature 81°; Cape Moreton, N., 15, fine, temperature 76°; Hughenden, N.E., 19, fine, but cloudy; [illegible], S.E., 18, fine; Blackall, N.W., 8, fine, but cloudy.

HEIGHT OF RIVERS ABOVE SUMMER LEVEL.

Macintyre: At Yetman, low; at Mungindi, low. Barwon: At Mogil Mogil, low; at Walgett, low. Namoi: At Walgett, falling, [illegible]. Culgoa: At Goodooga, low. Darling: At Brewarrina, falling, 3ft. 10in.; at Bourke, falling, 7ft. 9in., at Louth, falling, 6ft. 9in.; at Tilpa, falling, 11ft. 6in.; at Wilcannia, 24ft. 4in.; at Menindie, 20ft. 10in.; at Pooncarie, 22ft [illegible]; at Wentworth, [illegible]. Murrumbidgee: At Gundagai, 11ft. 6in.; at Wagga, rising, 11ft.; at Hay, falling, 11ft. 6in.; at Balranald, 18ft. [illegible]. Murray: At Albury, 9ft.; at Euston, 23ft. 5in.

ASTRONOMICAL MEMORANDA FOR OCTOBER 31.

Sun rises at 5.0, sets at 6.25; Moon, 5.7 p.m., 4.11 a.m.; Mercury, 6.7 a.m., 8.23 p.m.; Venus, [illegible] a.m., 5.7 p.m.; Mars, [illegible] a.m., 1.17 p.m.; Jupiter, 5.35 a.m., 6.[illegible] p.m.; Saturn, 12.[illegible] a.m., 11.4 a.m. Full moon, October 2; new moon, October 1[illegible].

High water at Fort Denison, October 31, 7.6 a.m., 7.26 p.m.

H. A. LENEHAN,
Acting Government Astronomer.

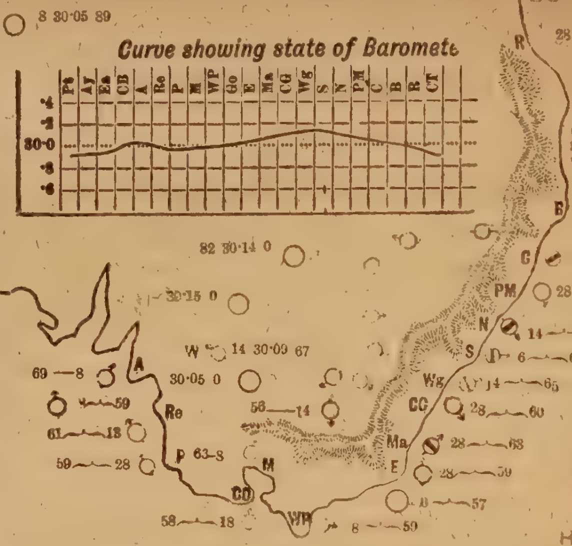
Stations.	wt	Mx	m	Rn
Albury ..	b	77	49	0
Armidale	b	74	46	0·28
Balranald	b	91	52	0
Bathurst	b	74	40	0
Bendem'r	b	82	56	0
Bodalla ..	g	77	52	0
Bourke ..	b	92	58	0
Bungarra	b	—	51	0
C'md'n H.	b	75	61	0
C. St. Geo.	b	74	56	0
Carcoar ..	b	75	35	0
Casino ..	c	91	58	0
Cassilis ..	g	73	52	0
Clarence .	c	82	61	0
C'nd'b'lin	b	89	51	0
Cooma ..	c	71	41	0
Coonab'n.	b	81	49	0
Cowra ..	b	82	51	0
Cudg'llico	g	90	51	0
Deniliq'n.	b	83	54	0
Dubbo ..	b	80	48	0
Eden	b	67	50	0
Euston ..	b	85	48	0
Forbes ..	b	—	49	0
G'bo Isl'nd	b	65	49	0
Glen Inn's	b	85	46	0
Goulburn	b	75	40	0
Grafton ..	c	86	64	0
Gulgong .	b	74	37	0
Gunned'h	b	88	53	0
Hay	b	83	53	0
Inverell. .	b	79	49	0
Kiandra. .	n	66	28	0
Lismore. .	c	89	65	0·08
Maitland .	g	81	60	0
M'n'ng H.	b	77	60	0
Marsdens.	c	81	56	0
Menindie.	b	88	60	0
Molong ..	b	73	41	0
M'r'ng'r'll	g	80	51	0
Moree ..	b	90	53	0
Moruya ..	g	81	57	0
Moss Vale	g	72	52	0
Mt. Hope	g	84	61	0
M. Vict'ria	b	76	43	0
Mudgee ..	h	83	40	0
M'rr'mb'h	b	76	47	0
M'rr'r'ndi	b	71	52	0
Mus'lbr'k	b	85	50	0
Narrabri	h	88	53	0
Newcastle	g	70	60	0
Orange ..	b	69	46	0
Picton ..	o	74	56	0
P. M'q'rie	b	77	58	0
P. St'ph'n	c	79	59	0
Q'nbeyan	b	80	43	0
Quirindi	b	81	52	0
Singleton	b	83	59	0
SYDNEY ..	c	73	60	0
Taralga ..	b	73	34	0
Taree	b	83	59	0
T'nt'rfield	b	82	57	0
Wagga ..	b	85	43	0
Walcha ..	b	72	36	0
Walgett	b	86	57	0
Warialda	b	85	45	0
Warrah ..	b	80	50	0
W'ntw'rth	b	83	56	0
W'll'ng'ng	c	77	56	0
Young ..	b	81	44	0

SYDNEY OBSERVATORY.

LATITUDE 33° 51' 41" S. LONGITUDE 10h. 4m. 50·81s. E.
MAGNETIC VARIATION, 9° 35' 37" E.

Average Annual Rainfall for 28 years .... 49·489
Average for 29 years from Jan. 1 to Sep. 30 1887 .... 41·210
Total Rainfall from Jan. 1, to Oct. 31 1887 ...... 40·340

Barometers corrected to 32° Fah. and Mean Sea Level



Fine wind N. Cloudy wind E. T. storm, wind S. Rain wind W.
If it is CALM, the symbol used without the arrow.
Smooth sea.
Heavy sea.
Very heavy sea.

TIME BALL
Drops 1 p.m. Sydney mean time; 2h. 55m. 9·19s. a.m. Greenwich mean time.

N S

SYDNEY STANDARD BAROMETER, 9 a.m., 30·117 inches.

H. C. RUSSELL
GOVERNMENT ASTRONOMER

NOTES EXPLANATORY OF MAP.

In the list of stations the column headed W.T. gives the state of the weather at 9 a.m., b, standing for blue sky; c, detached clouds; d, drizzling rain; f, fog; g, gloomy; h, hazy; m, misty; n, frosty; o, overcast; p, passing showers; r, rain; s, snow; t, thunder; u, threatening. The next column, M'x gives the maximum temperature for previous 24 hours; M'n the corresponding minimum temperature; r'n, the rain for the previous 24 hours. The symbols used in the map are explained on the margin. At each coast station the wind symbol is placed like a vane pointing to the direction from which the wind is coming. A clear circle with it means fine weather; a circle with bar, cloudy weather; and a black spot, raining. Next to this symbol are placed figures denoting the number of miles the wind is moving per hour; next, a symbol showing the state of the sea; and, lastly, figures denoting the shade temperature at 9 a.m. The barometer curve shows the state of barometers round the coast from Perth to Cooktown:—Pt, Perth; Ay, Albany; Ea, Eucla; CB, Cape Borda; A, Adelaide; Re, Robe; P, Portland; M, Melbourne; W P, Wilson's Promontory; Go, Gabo; E, Eden; Ma, Moruya; C G, Jervis Bay; Wg, Wollongong; S, Sydney; N, Newcastle; P M, Port Macquarie; C, Clarence River; B, Brisbane; R, Rockhampton; Ct, Cooktown. Inland the state of barometer is given in figures at Albury, Deniliquin, Wentworth, Menindie, Bourke, and Alice Springs. The barometer curve enables one at a glance to trace the depressions, beginning with Western Australia, and passing along eastwards; northerly winds preceding them, and southerly following.

The rainfall on Sundays or holidays, when this map is not published, is in all cases included in the quantities shown by the next following map.

9 A.M. OBSERVATIONS.

Western Australia.—Cloudy in S. W. parts, fine over the remainder of the colony; light to fresh S. E. to S. W. winds, smooth sea. Extremes of barometers and temperature: Cossack, 30·11; Ashburton, 81°; Albany, 29·95 and 63°.

South Australia.—Generally fine and warm, very light northerly winds and calms, smooth to moderate sea; cloudy and unsettled in the Northern Territory, and during the night thunderstorms between Port Darwin and Katherine. Extremes of barometers and temperature: Alice Springs, 30·05 and 89°; Port Darwin, 29·88; and Cape Northumberland, 59°.

Victoria.—Generally fine, with scattered clouds; light northerly winds and calms; smooth to moderate sea. Extremes of barometers and temperature: Omeo, 30·09; Lakes Entrance, 29·95 and 57°; Echuca, 68°.

Tasmania.—Generally fine, with clouds at scattered places; light to fresh westerly winds; moderate sea. Extremes of barometers and temperature: Low Heads, 29·96; Southport, 29·67; Falmouth, 53°; and Hobart, 57°.

New Zealand.—Generally fine, but gloomy in extreme south; light variable winds and calms. Barometers: In north, 30·00; to southward, 29·90.

Queensland.—Generally fine, with scattered clouds; light W.N. to E. winds; smooth to moderate sea. Thunderstorms, with light rain, during the night in the Leichardt country. Extremes of barometers and temperature: Brisbane, 30·04; Thursday Island, 29·88; Normanton, 88°; and Cape Moreton, 73°.

New South Wales.—Generally fine, but along the coast, more or less cloudy and unsettled; light, variable, chiefly east to N.E. winds or calms; smooth to moderate sea. During the past 48 hours rain fell at only two of the weather stations, viz., Armidale and Lismore. Extremes of barometers and temperature: Menindie, 30·11; Gabo, 29·99; Bourke, 82°; and Cooma, 52°. (For further particulars see map.)

3 P.M. OBSERVATIONS.

Victoria.—Portland, W. 34, fine, smooth sea, temperature 66°; Cape Otway, W.N.W., 28, fine, moderate sea, temperature 63°; Melbourne, S.S.W., 13, fine, temperature 67°; Cape Schanck, S.S.W., fine, smooth sea, temperature 60°; Wilson's Promontory, S.W., 13, fine, smooth sea, temperature 58°; Lake Entrance, E., 23, cloudy, temperature 65°.

New South Wales.—Menindie, N.W., 14, fine and hot, temperature 80°; Wentworth, S.W., 28, fine, temperature 72°; Deniliquin, calm, fine, and warm, temperature 77°; Eden, N.E., 14, fine but cloudy, smooth sea, temperature 65°; Moruya, N.E., 28, overcast and gloomy, moderate sea, temperature 64°; Cape St. George, N.E., 42, fine, but cloudy, smooth sea, temperature 63°; Sydney, E.N.E., 17, cloudy and dull, smooth sea, temperature 64°; Newcastle, E., 14, fine, smooth sea, temperature 67°; Port Macquarie, S.S.E., 42, cloudy, smooth sea, temperature 79°; Clarence River, S., cloudy, smooth sea, temperature 74°; Walgett, N.W., 14, fine, temperature 82°; Dubbo, W., 14, fine, temperature 75°; Goulburn, W., 14, dull, temperature, 68°.

Queensland.—Townsville, E., 13, fine and hot, temperature 80°; Mackay, S.E., 13, fine and clear; Rockhampton, E.S.E., 8, cloudy, temperature 80°; Cape Moreton, N.N.E., 23, gloomy, temperature 72°; Brisbane, N., 28, threatening, temperature 78°; Hughenden, calm, passing showers; Boulia, S.E., 28, fine and hot; Blackall, N.E., 13, cloudy and close; Thargomindah, S.E., fine; Roma, S.E., 8, thunderstorm, temperature 78°.

HEIGHT OF RIVERS ABOVE SUMMER LEVEL.

Macintyre: At Yetman, low; at Mungindi, low. Barwon: At Mogil Mogil, low; at Walgett, low. Namoi: At Walgett, low. Culgoa: At Goodooga, low. Darling: At Brewarrina, falling, 3ft. 6in.; at Bourke, falling, 7ft. 2in.; at Louth, falling, 6ft.; at Tilpa, falling, 12ft.; at Wilcannia, falling, 20ft. 6in.; at Menindie, 25ft. 10in.; at Pooncarie, 22ft. 5in.; at Wentworth, 21ft. 9in. Murrumbidgee: At Gundagai, falling, 16ft. 3in.; at Wagga, 21ft. 9in.; at Hay, falling, 11ft.; at Balranald, 16ft. Murray: At Albury, 11ft.; at Euston, 23ft. 2in.

ASTRONOMICAL MEMORANDA FOR NOVEMBER 1.

Sun rises at 5.1, sets at 6.26; Moon, 6.54 p.m., 5.12 a.m.; Mercury, 6.7 a.m., 8.23 p.m.; Venus, 3.3 a.m., 3.5 p.m.; Mars, 2.31 a.m., 1.47 p.m.; Jupiter, 5.29 a.m., 6.57 p.m.; Saturn, 12.43 a.m., 11.1 a.m. Full moon, November 1; new moon, November 15.

High water at Fort Denison, November 1: 8.19 a.m., 8.37 p.m.

H. A. LENEHAN,
Acting Government Astronomer.

Stations.	W.T.	Mx	M'n	Rn.
Albury ..	b	78	48	0
Armidale	b	75	60	0
Balranald	b	91	53	0
Bathurst	b	78	44	0
Bendem'r	b	78	57	0
Bodalla ..	b	70	50	0
Bourke ..	b	99	61	0
Bundarra	b	—	59	0
C'md'n H.	b	74	64	0
C. St. Geo.	b	66	56	0
Carcoar ..	b	70	36	0
Casino ..	b	89	59	0
Cassilis ..	b	77	56	0
Clarence .	b	80	65	0
C'nd'b'lin	b	91	56	0
Cooma ..	b	75	38	0
Coonab'n.	b	86	47	0
Cowra ..	b	85	52	0
Cudg'llico	b	83	56	0
Deniliq'n.	b	88	[illegible]	0
Dubbo ..	b	84	48	0
Eden	b	65	51	0
Euston ..	b	89	50	0
Forbes ..	b	—	46	0
G'bo Isl'nd	b	66	53	0
Glen Inn's	b	88	61	0
Goulburn	b	7[illegible]	[illegible]	0
Grafton ..	b	86	[illegible]	0·45
Gulgong .	b	80	41	0
Gunned'h	b	83	57	0
Hay	b	83	51	0
Inverell ..	b	82	52	0
Kiandra ..	b	80	30	0
Lismore ..	c	93	68	0
Maitland .	g	83	61	0
M'n'ng H.	b	71	58	0
Marsdens.	b	83	60	0
Menindie.	b	89	62	0
Molong ..	b	66	44	0
M'r'ng'r'll	b	83	51	0
Moree ..	b	94	60	0
Moruya ..	b	78	58	0
Moss Vale	b	67	49	0
Mt. Hope	b	90	62	0
M. Vict'ria	b	77	43	0
Mudgee ..	b	85	45	0
M'rr'mb'h	b	76	48	0
M'rr'r'ndi	b	76	57	0
Mus'lbr'k	b	92	50	0
Narrabri	b	91	80	0
Newcastle	g	71	61	0
Orange ..	b	73	46	0
Picton ..	b	73	46	0
P. M'q'rie	b	76	58	0
P. St'ph'n	g	75	56	0
Q'nbeyan	b	79	29	0
Quirindi	b	90	55	0
Singleton	b	81	59	0
Sydney ..	c	69	60	0
Taralga ..	b	75	40	0
Taree	b	85	59	0
T'nt'rfield	b	84	43	0
Wagga ..	b	87	43	0
Walcha ..	b	74	43	0
Walgett	b	91	59	0
Warialda	b	87	51	0
Warrah ..	b	84	55	0
W'ntw'rth	b	89	58	0
W'll'ng'ng	c	71	51	0
Young ..	b	77	46	0

SYDNEY OBSERVATORY.

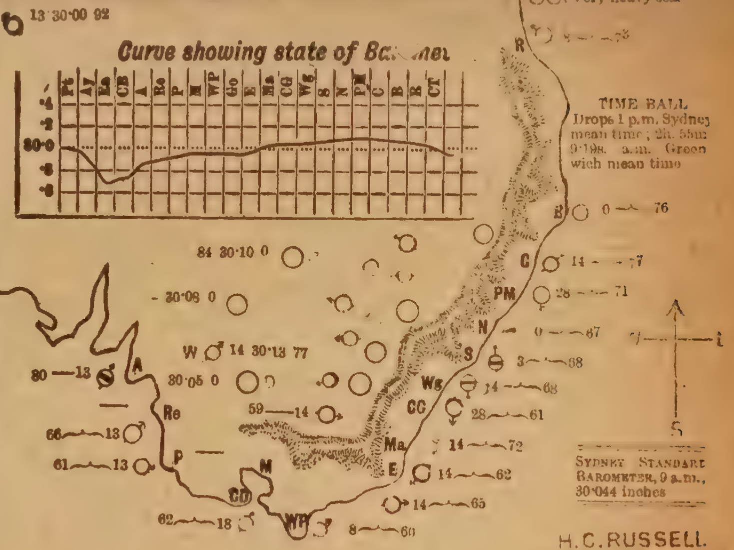
LATITUDE 33° 51' 41" S. LONGITUDE 10h. 4m. 50·31s. E.

MAGNETIC VARIATION, 9° 35' 37" E.

Average Annual Rainfall for 28 years .... 49·487
Average for 29 years from Jan. 1 to Oct. 31 1887 .. .. 44·275
Total Rainfall from Jan. 1, to Nov. 1 1887 .... 49·313

Barometers corrected to 32° Fah. and Mean Sea Level

Fine wind N. / Gloomy wind E.
T. storm, wind S. / Rain, wind W.
If it is CALM, the symbol used without the arrow.
Smooth sea.
Heavy sea.
Very heavy sea.



H. C. RUSSELL.
GOVERNMENT ASTRONOMER

NOTES EXPLANATORY OF MAP.

In the list of stations the column headed W.T. gives the state of the weather at 9 a.m., b, standing for blue sky; c, detached clouds; d, drizzling rain; f, fog; g, gloomy; h, hazy; m, misty; n, frosty: o, overcast; p, passing showers; r, rain; s, snow; t, thunder; u, threatening. The next column, M'x gives the maximum temperature for previous 24 hours; M'n the corresponding minimum temperature; r'n, the rain for the previous 24 hours. The symbols used in the map are explained on the margin. At each coast station the wind symbol is placed like a vane pointing to the direction from which the wind is coming. A clear circle with it means fine weather; a circle with bar, cloudy weather; and a black spot, raining. Next to this symbol are placed figures denoting the number of miles the wind is moving per hour; next, a symbol showing the state of the sea; and, lastly, figures denoting the shade temperature at 9 a.m. The barometer curve shows the state of barometers round the coast from Perth to Cooktown:—Pt, Perth; Ay, Albany; Ea, Eucla; CB, Cape Borda; A, Adelaide; Re, Robe; P, Portland; M, Melbourne; W P, Wilson's Promontory; Go, Gabo; E, Eden; Ma, Moruya; C G, Jervis Bay; Wg, Wollongong; S, Sydney; N, Newcastle; P M, Port Macquarie; C, Clarence River; B, Brisbane; R, Rockhampton; Ct, Cooktown. Inland the state of barometer is given in figures at Albury, Deniliquin, Wentworth, Menindie, Bourke, and Alice Springs. The barometer curve enables one at a glance to trace the depressions, beginning with Western Australia, and passing along eastwards; northerly winds preceding them, and southerly following.

The rainfall on Sundays or holidays, when this map is not published, is in all cases included in the quantities shown by the next following map.

9 A.M. OBSERVATIONS.

Western Australia.—Generally fine, with scattered clouds, light variable, chiefly westerly winds; smooth sea on the west coast; moderate to rough sea along the south coast. Extremes of barometers and temperature: Cossack, 30·10; Esperance Bay, 29·87; Ashburton, 81°; Albany, 59°.

South Australia.—Generally fine and warm, with scattered clouds throughout; in parts sultry and dusty; light to fresh N. E. winds. During the night thunderstorms occurred between Port Darwin and Katherine. On the south coast the sea is moderate to rough. Extremes of barometers and temperature: Alice Springs, 30·00 and 92°; Eucla, 29·63; Cape Northumberland, 62°.

Victoria.—Generally fine, with light north to N.E. winds, and smooth to moderate sea. Extremes of barometers and temperature: Omeo, 30·02; Portland, 29·91; Echuca, 75.; and Cape Schanck, 59°.

Tasmania.—Generally more or less cloudy; light westerly winds; smooth to moderate sea. Extremes of barometers and temperature: Low Heads, 29·94 and 57°; Hobart, 29·81; and Circular Heads, 60°.

New Zealand.—Fine generally, with light westerly winds; showery from north in Cook Strait. Barometers: In north, 29·90; to southward, 29·80.

Queensland.—Generally fine, with scattered clouds; light S.E. to N.E. and north winds; smooth to moderate sea. Heavy thunderstorms, with heavy rain during the night between Cape Moreton and Rockhampton; several stations report over an inch fallen. Extremes of barometers and temperature: Rockhampton, 30·06; Normanton, 29·92 and 87°; Cape Moreton, 71°.

New South Wales.—Fine throughout the colony, except in central coast districts, where it is cloudy and unsettled; light, variable, chiefly easterly winds and calms; smooth sea. Only one station reports rain during the last 24 hours, viz., Grafton. Extremes of barometers and temperature: Forbes, 30·14; Gabo, 29·95; Bourke, 84°; and Cooma, 57°. (For further particulars see map.)

3 P.M. OBSERVATIONS.

South Australia.—Adelaide, N., 23, cloudy, temperature 91°.

Victoria.—No telegrams—Cup day (holiday).

New South Wales.—Menindie, calm, fine, and hot, temperature 83°; Deniliquin, calm, fine, temperature 84°; Eden, E.N.E., 14, fine, smooth sea, temperature 65°; Moruya, N.E., 28, fine, smooth sea, temperature 73°; Cape St. George, N.E., 14, fine, smooth sea, temperature 67°; Sydney, E.S.E., 14, fine, smooth sea, temperature 67°; Newcastle, S.E., 14, fine, smooth sea, temperature 68°; Port Macquarie, S.E., 14, sultry and cloudy, smooth sea, temperature 81°; Clarence River, N.E., 14, cloudy, smooth sea, temperature 75°; Walgett, S.W., fine and hot, temperature 86°; Goulburn, W., fine, temperature 68°.

Queensland.—Townsville, N., fine, moderate sea, temperature 80°; Mackay, E., 13, cloudy; Rockhampton, NE., 13, cloudy, temperature 82°; Cape Moreton, N.E., 18, fine, temperature 78°; Brisbane, N.E., 18, cloudy and threatening, temperature 79°; Hughenden, N.E., 42, cloudy and threatening; Blackall, E., 18, cloudy and threatening; Roma, calm, cloudy, temperature 88°.

HEIGHT OF RIVERS ABOVE SUMMER LEVEL.

Macintyre: At Yetman, low; at Mungindi, low. **Barwon**: At Mogil Mogil, low; at Walgett, low. **Namoi**: At Walgett, low. **Culgoa**: At Goodooga, low. **Darling**: At Brewarrina, falling, 3ft. 5in.; at Bourke, falling, 7ft.; at Louth, falling, 6ft. 2in.; at Tilpa, falling, 11ft.; at Wilcannia, falling, 13ft.; at Menindie, 25ft. 10in.; at Pooncarie, 22ft. 5in.; at Wentworth, 21ft. 9in. **Murrumbidgee**: At Gundagai, falling, 13ft.; at Wagga, 22ft. 9in.; at Hay, falling, 10ft. 10in.; at Balranald, 16ft. **Murray**: At Albury, 11ft. 5in.; at Euston, 23ft. 2in.

ASTRONOMICAL MEMORANDA FOR NOVEMBER 2.

Sun rises at 5.0, sets at 6.37; Moon, 7.48 p.m., 5.46 a.m.; Mercury, 6.5 a.m., 8.22 p.m.; Venus, 3.1 a.m., 3.4 p.m.; Mars, 2.29 a.m., 1.46 p.m.; Jupiter, 5.25 a.m., 6.53 p.m.; Saturn, 12.59 a.m., 10.57 p.m. Full moon, November 1; new moon, November 15.

High water at Fort Denison, November 2: 8.54 a.m., 9.12 p.m.

H. A. LENEHAN,
Acting Government Astronomer.

Stations.	W.T.	Mx	M'n	R'n.
Albury ..	c	83	58	0
Armidale	b	75	49	0
Balranald	b	93	51	0
Bathurst	b	82	46	0
Bendem'r	b	82	58	0
Bodalla ..	g	69	64	0
Bourke ..	b	100	69	0
Bungarra	b	—	58	0
C'md'n H.	b	72	62	0
C. St. Geo.	b	75	55	0
Carcoar ..	b	78	41	0
Casino ..	b	90	54	0·28
Cassilis ..	b	79	56	0
Clarence .	b	80	65	0
C'nd'b'lin	b	91	51	0
Cooma ..	c	83	45	0
Coonab'n.	b	83	49	0
Cowra ..	b	91	56	0
Cudg'llico	b	89	64	0
Deniliq'n.	c	96	57	0
Dubbo ..	b	88	51	0
Eden	b	70	63	0
Euston ..	b	104	70	0
Forbes ..	b	—	49	0
G'bo Isl'nd	b	68	60	0
Glen Inn's	b	82	50	0

18—66 EUCLA

Stations.	W.T.	Mx	M'n	R'n.
Goulburn	b	81	45	0
Grafton ..	b	87	65	0
Gulgong .	b	81	46	0
Gunned'h	b	89	62	0
Hay	c	92	68	0
Inverell. .	b	82	54	0
Kiandra. .	g	79	32	0
Lismore .	b	91	60	0·18
Maitland .	g	84	62	0
M'n'ng H.	b	75	58	0
Marsdens.	b	86	63	0
Menindie.	n	96	72	0
Molong ..	b	83	44	0
M'r'ng'r'll	b	87	54	0
Moree ..	b	95	62	0
Moruya ..	b	74	59	0
Moss Vale	b	72	58	0

SYDNEY OBSERVATORY.

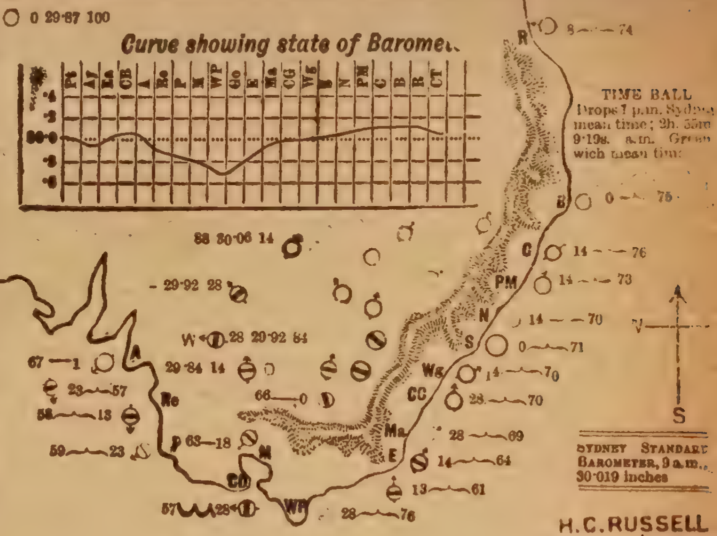
LATITUDE 33° 51' 41" S. LONGITUDE 10h. 4m. 50·81s. E.

MAGNETIC VARIATION, 9° 35' 37" E.

Average Annual Rainfall for 28 years.................. 49·459
Average for 29 years from Jan. 1 to Oct. 31 .... 44·275
Total Rainfall from Jan. 1, to Nov. 2 1887 .... 43·348

Barometers corrected to 32° Fah. and Mean Sea Level

Fine. wind N. Rain wind S. T. storm, wind S. If it is CALM, the symbol used without the arrow. Smooth sea. Heavy sea. Very heavy sea.



H. C. RUSSELL
GOVERNMENT ASTRONOMER.

Stations.	W.T.	Mx	M'n	R'n.
Mt. Hope	b	94	65	0
M. Vict'ria	b	84	50	0
Mudgee ..	b	89	47	0
M'rr'mb'h	c	83	50	0
M'rr'r'ndi	b	78	56	0
Mus'lbr'k	b	92	58	0
Narrabri	b	92	58	0
Newcastle	b	72	61	0
Orange ..	b	74	49	0
Picton ..	b	80	49	0
P. M'q'rie	b	78	57	0
P. St'ph'n	b	80	59	0
Q'nbeyan	b	81	40	0
Quirindi	b	99	60	0
Singleton	g	84	62	0
SYDNEY ..	b	72	61	0
Taralga ..	b	81	40	0
Taree	-	—	—	-
T'nt'rfield	b	83	47	0·13
Wagga ..	g	93	52	0
Walcha ..	b	76	41	0
Walgett	b	92	64	0
Warialda	b	91	52	0
Warrah ..	b	87	56	0
W'ntw'rth	c	99	76	0
W'll'ng'ng	b	76	58	0
Young ..	b	89	54	0

NOTES EXPLANATORY OF MAP.

In the list of stations the column headed W.T. gives the state of the weather at 9 a.m., b, standing for blue sky; c, detached clouds; d, drizzling rain; f, fog; g, gloomy; h, hazy; m, misty; n, frosty; o, overcast; p, passing showers; r, rain; s, snow; t, thunder; u, threatening. The next column, M'x gives the maximum temperature for previous 24 hours; M'n the corresponding minimum temperature; r'n, the rain for the previous 24 hours. The symbols used in the map are explained on the margin. At each coast station the wind symbol is placed like a vane pointing to the direction from which the wind is coming. A clear circle with it means fine weather; a circle with bar, cloudy weather; and a black spot, raining. Next to this symbol are placed figures denoting the number of miles the wind is moving per hour; next, a symbol showing the state of the sea; and, lastly, figures denoting the shade temperature at 9 a.m. The barometer curve shows the state of barometers round the coast from Perth to Cooktown:—Pt, Perth; Ay, Albany; Ea, Eucla; CB, Cape Borda; A, Adelaide; Re, Robe; P, Portland; M, Melbourne; W P, Wilson's Promontory; Go, Gabo; E, Eden; Ma, Moruya; C G, Jervis Bay; Wg, Wollongong; S, Sydney; N, Newcastle; P M, Port Macquarie; C, Clarence River; B, Brisbane; R, Rockhampton; Ct, Cooktown. Inland the state of barometer is given in figures at Albury, Deniliquin, Wentworth, Menindie, Bourke, and Alice Springs. The barometer curve enables one at a glance to trace the depressions, beginning with Western Australia, and passing along eastwards; northerly winds preceding them, and southerly following.

The rainfall on Sundays or holidays, when this map is not published, is in all cases included in the quantities shown by the next following map.

9 A.M. OBSERVATIONS.

Western Australia.—Fine in W. and N.W. parts; cloudy and showery in south; light S.E. to S.W. winds; smooth sea. Extremes of barometers and temperature: Carnarvon, 30·02; Albany, 29·88 and 56·; Ashburton, 82·.

South Australia.—Generally fine, with more or less clouds inland and in Northern Territory; cloudy, gloomy, and threatening on and near the coast; light to fresh S.W. to S. winds and calms; smooth to moderate sea; very warm in Central Australia. Extremes of barometers and temperature: Cape Borda, 30·00 and 57·; Farina, 29·84; and Alice Springs, 100·.

Victoria.—Generally cloudy, and in parts threatening; variable winds inland; chiefly north and west winds; moderate to rough sea; hot winds during the night on and near the coast. Extremes of barometers and temperature: Omeo, 29·89; Wilson's Promontory, 29·68; Echuca, 79·; and Cape Otway, 57·.

Tasmania.—Cloudy and showery generally; fresh to strong westerly winds, moderate sea. Rainfall in south parts, 0.47 inch. Extremes of barometers and temperature; Low Heads, 29·62; Southport, 29·53 and 58·; Falmouth, 74·.

New Zealand.—Generally fine, with light S.E. to S.W. winds. Barometers, generally 30·00.

Queensland.—Generally fine, light N. to E. winds, smooth to moderate sea; thunderstorms with light rains occurred yesterday on the Darling Downs and in the Moreton district. Extremes of barometers and temperature; Rockhampton, 30·07; Thursday Island, 29·92 and 82·; Cape Moreton, 72·.

New South Wales.—Cloudy and unsettled on the south and western borders; fine, clear, and warm over the remainder of the colony; light to fresh N.E. to N.W. winds and calms; smooth sea. During the night thunderstorms with light rain occurred in the Clarence district; north of the Richmond. Extremes of barometers and temperature: Clarence, 30·11; Gabo Island, 29·78; Bourke, 88·; and Cooma, 60·. For further particulars see map.

3 P.M. OBSERVATIONS.

South Australia.—Adelaide, S.W., 13, fine, temperature 69·.

Victoria.—Portland, S.S.E., 23, cloudy, smooth sea, temperature 59·; Cape Otway, S.W., 23, cloudy and gloomy, moderate sea, temperature 56·; Melbourne, S., cloudy and gloomy, temperature 60·; Cape Schanck, S.W., 23, fine but cloudy, smooth sea, temperature 62·; Wilson's Promontory, W.S.W., 23, cloudy and squally, sea moderate, temperature 58·.

New South Wales.—Menindie, N.W., 28, cloudy and like rain, temperature 87·; Wentworth, S.W., 14, fine and hot, temperature 79·; Deniliquin, N., 28, fine and warm, temperature 88·; Eden, N.E., 14, fine but cloudy, smooth sea, temperature 68·; Moruya, N.E., 28, overcast and gloomy, moderate sea, temperature 64.; Cape St. George, N.E., 56, fine but cloudy, smooth sea, temperature 68·; Sydney, E.N.E., 18, fine and hot, moderate sea; Newcastle, N.E., 28, fine, smooth sea, temperature 72·; Port Macquarie, N.E., 42, fine and hazy, smooth sea, temperature 77·; Clarence River, N.E., 42, fine, smooth sea, temperature 76·; Walgett, calm, fine, temperature 93·; Dubbo, N.W., 14, fine, temperature 80·; Goulburn, N.W., 14, fine; Balranald, S.W., 28, dusty and hot; Euston, W., 28, fine, clear, and warm.

Queensland.—Townsville, N.E., 13, fine but cloudy, smooth sea, temperature 80·; Mackay, N.E., 13, fine; Rockhampton, N.E., 18, fine, temperature 82·; Cape Moreton, N.N.E., 13, fine, temperature 81·; Brisbane, N., 23, fine but cloudy, temperature 80·; Hughenden, N.E., 23, fine and hot; Boulia, E., 13, fine; Blackall, calm, cloudy; Roma, E., 8, fine, temperature 83·.

HEIGHT OF RIVERS ABOVE SUMMER LEVEL.

Macintyre: At Yetman, low; at Mungindi, low. Barwon: At Mogil Mogil, low; at Walgett, low. Namoi: At Walgett, low. Culgoa: At Goodooga, low. Darling: At Brewarrina, falling, 3ft. 3in.; at Bourke, falling, 6ft. 9in.; at Louth, falling, 6ft. 1in.; at Tilpa, falling, 10ft. 3in.; at Wilcannia, falling, 18ft.; at Menindie, 25ft. 10in.; at Pooncarie, 22ft. 5in.; at Wentworth, 21ft. 9in. Murrumbidgee: At Gundagai, falling, 11ft. 3 in.; at Wagga, 19ft.; at Hay, 10ft. 6in.; at Balranald, 15ft. 11in. Murray: At Albury, 11ft. 2in.; at Euston, 23ft. 1in.

ASTRONOMICAL MEMORANDA FOR NOVEMBER 3.

Sun rises at 5.0, sets at 6.28; Moon, 8.43 p.m., 6.22 a.m.; Mercury, 6.3 a.m., 8.20 p.m.; Venus, 2.59 a.m., 3.3 p.m.; Mars, 2.27 a.m., 1.44 p.m.; Jupiter, 5.20 a.m., 6.49 p.m.; Saturn, 12.35 a.m., 10.53 a.m. Full moon, November 1; new moon, November 15.

High water at Fort Denison, November 3: 9.29 a.m., 9.47 p.m.

H. A. LENEHAN,
Acting Government Astronomer.

Stations.	W.T.	Mx	M'n	R'n
Albury ..	c	89	64	0·05
Armidale	b	75	52	0
Balranald	g	105	52	0·06
Bathurst	b	87	55	0
Bendem'r	b	82	61	0
Bodalla ..	g	76	54	0
Bourke ..	b	104	74	0
Bundarra	b	—	58	0
C'md'n H.	b	78	66	0
C. St. Geo.	b	71	60	0
Carcoar ..	u	74	48	0
Casino ..	b	91	56	0
Cassilis ..	c	81	62	0
Clarence .	b	80	64	0
C'nd'b'lin	c	97	59	0
Cooma ..	c	84	54	0
Coonab'n.	b	91	52	0
Cowra ..	g	92	51	0
Cudg'llico	g	102	68	0
Deniliq'n.	g	100	56	0
Dubbo ..	b	91	56	0
Eden	b	69	55	0
Euston ..	b	97	57	0·01
Forbes ..	b	—	48	0
G'bo Isl'nd	c	67	54	0
Glen Inn's	b	92	54	0
Goulburn	b	89	57	0
Grafton ..	b	88	66	0
Gulgong .	b	86	49	0
Gunned'h	b	91	62	0
Hay	b	93	61	0
Inverell .	b	84	51	0
Kiandra .	b	72	45	0
Lismore .	b	91	63	0·18
Maitland .	b	91	63	0
M'n'ng H.	b	79	53	0
Marsdens.	c	89	66	0
Menindie.	b	97	73	0
Molong ..	b	90	61	0
M'r'ng'r'll	c	89	63	0
Moree ..	b	96	65	0
Moruya ..	g	72	56	0
Moss Vale	h	82	63	0
Mt. Hope	b	99	72	0
M. Vict'ria	b	86	63	0
Mudgee ..	b	90	53	0
M'rr'mb'h	c	84	61	0
M'rr'r'ndi	b	82	61	0
Mus'lbr'k	b	98	58	0
Narrabri	h	94	63	0
Newcastle	f	75	63	0
Orange ..	b	80	56	0
Picton ..	c	87	58	0
P. M'q'rie	h	79	63	0
P. St'ph'n	b	83	59	0
Q'nbeyan	b	80	44	0
Quirindi	b	101	60	0
Singleton	b	90	62	0
Sydney ..	b	76	63	0
Taralga ..	b	79	37	0
Taree	b	90	62	–
T'nt'rfield	b	90	51	0
Wagga ..	g	96	61	0
Walcha ..	b	81	41	0
Walgett	b	96	67	0
Warialda	b	91	58	0
Warrah ..	b	88	58	0
W'ntw'rth	c	93	64	0·02
W'll'ng'ng	b	77	59	0
Young ..	u	88	59	0

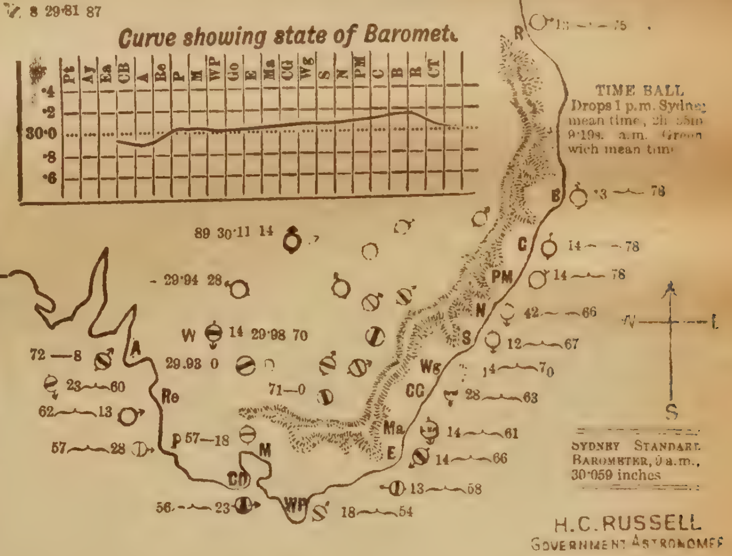
SYDNEY OBSERVATORY.

Latitude 33° 51' 41" S. Longitude 10h. 4m. 60·81s. E.

Magnetic Variation, 9° 36' 37" E.

Average Annual Rainfall for 28 years .... 49·480
Average for 29 years from Jan. 1 to Oct. 31 .... 44·275
Total Rainfall from Jan. 1, to Nov. 3 1887 ...... 49·349

Barometers corrected to 32° Fah. and Mean Sea Level



Fine, wind N. Storm, wind S. Rain. If it is calm, the symbol used without the arrow.
Smooth sea.
Heavy sea.
Very heavy sea.

TIME BALL
Drops 1 p.m. Sydney mean time, 2h. 55m 9·19s. a.m. Greenwich mean time

SYDNEY STANDARD BAROMETER, 9 a.m., 30·059 inches

H. C. RUSSELL
GOVERNMENT ASTRONOMER

NOTES EXPLANATORY OF MAP.

In the list of stations the column headed W.T. gives the state of the weather at 9 a.m., b, standing for blue sky; c, detached clouds; d, drizzling rain; f, fog; g, gloomy; h, hazy; m, misty; n, frosty: o, overcast; p, passing showers; r, rain; s, snow; t, thunder; u, threatening. The next column, M'x gives the maximum temperature for previous 24 hours; M'n the corresponding minimum temperature; r'n, the rain for the previous 24 hours. The symbols used in the map are explained on the margin. At each coast station the wind symbol is placed like a vane pointing to the direction from which the wind is coming. A clear circle with it means fine weather; a circle with bar, cloudy weather; and a black spot, raining. Next to this symbol are placed figures denoting the number of miles the wind is moving per hour; next, a symbol showing the state of the sea; and, lastly, figures denoting the shade temperature at 9 a.m. The barometer curve shows the state of barometers round the coast from Perth to Cooktown:—Pt, Perth; Ay, Albany; Ea, Eucla; CB, Cape Borda; A, Adelaide; Re, Robe; P, Portland; M, Melbourne; W P, Wilson's Promontory; Go, Gabo; E, Eden; Ma, Moruya; C G, Jervis Bay; Wg, Wollongong; S, Sydney; N, Newcastle; P M, Port Macquarie; C, Clarence River; B, Brisbane; R, Rockhampton; Ct, Cooktown. Inland the state of barometer is given in figures at Albury, Deniliquin, Wentworth, Menindie, Bourke, and Alice Springs. The barometer curve enables one at a glance to trace the depressions, beginning with Western Australia, and passing along eastwards; northerly winds preceding them, and southerly following.

The rainfall on Sundays or holidays, when this map is not published, is in all cases included in the quantities shown by the next following map.

Western Australia.—No reports.

South Australia.—Generally cloudy, gloomy, threatening, and sultry in south parts, fine but more or less cloudy north of Hergott; light N.E. to S.E. winds in south, northerly winds in north; smooth sea. Extremes of barometers and temperature: Daly Waters, 29·99 and 89°; Farina, 29·78; and Cape Northumberland, 56°.

Victoria.—Generally more or less cloudy, and in parts threatening; variable winds, chiefly light south to east. Very light rains have fallen at scattered places inland. Extremes of barometers and temperature: Wilson's Promontory, 30·04; Hamilton, 29·92 and 52°; Horsham, 65°.

Tasmania.—Generally fine, with scattered clouds; light easterly winds; smooth sea. Rainfall, 0·02in. in south parts. Extremes of barometers and temperature: Falmouth, 30·19; Circular Head, 30·04 and 57°; Southport, 53°.

New Zealand.—Showery in south parts, fine to northward, and light south-west to north-west winds. Barometers; In north, 30·20; over centre, 30·00; in south, 29·80.

Queensland.—Generally fine, but in south parts more or less cloudy; light N. to N.E. winds; smooth to moderate sea. Rainfall: Ayrshire, 0·54in. Extremes of barometers and temperature: Brisbane, 30·17; Thursday Island, 29·91 and 82°; Cape Moreton, 63°.

New South Wales.—Cloudy and unsettled in the southern half of the colony; threatening at a few scattered places in central parts; fine, clear, and cool in north; light to fresh N. to W.E. winds, but southerly on the coast; smooth to moderate sea. Rainfall: Very light at places along the southern border. Extremes of barometers and temperature: Clarence, 30·13; Deniliquin, 29·93; Bourke, 89°; and Bodalla, 62°. (For further particulars see map.)

3 P.M. OBSERVATIONS.

New South Wales.—Menindie, N.W., 28, dull and like a storm, temperature 83°; Wentworth, S.S.E., overcast and dull, temperature 72°; Deniliquin, NW., dull, like a storm, temperature 85°; Eden, E.N.E., 14, fine but cloudy, smooth sea, temperature 63°; Moruya, E.N.E., 14, fine but cloudy, smooth sea, temperature 66°; Cape St. George, S.E., 14, fine, smooth sea, temperature 67°; Sydney, S.E., 11, fine and warm, moderate sea, temperature 67°; Newcastle, S., 42, fine, smooth sea, temperature 68°; Port Macquarie, N.E., 42, fine and hazy, smooth sea, temperature 76°; Clarence River, N.E., 56, fine, rough sea, temperature 74°; Walgett, calm, fine and warm, temperature 91°; Dubbo, N., 28, fine, temperature 85°; Goulburn, N.W., 14, fine and warm, temperature 79°.

Victoria.—Portland, S.E., 23, cloudy, smooth sea, temperature 56°; Cape Otway, S., 23, cloudy, smooth sea, temperature 58°; Melbourne, W.S.W., 8, passing showers, temperature 60°; Cape Schanck, calm, foggy and misty, smooth sea, temperature 61°; Wilson's Promontory, E.S.E., 34, cloudy and squally, moderate sea, temperature 55°; Lakes Entrance, E., 23, cloudy and gloomy, sea moderate, temperature 65°.

Queensland.—Mackay, N.E., 18, fine; Rockhampton, E., 18, fine, temperature 80°; Cape Moreton, N.E., 18, fine; Brisbane, N.N.E., 18, fine temperature 78°; Hughenden, N.E., 23, fine and clear; Boulia, N.W., 40, fine but cloudy; Blackall, S.E., 13, fine and warm; Thargomindah, N.E., fine; Roma, N.E., 13, fine, temperature 75°.

HEIGHT OF RIVERS ABOVE SUMMER LEVEL.

Macintyre: At Yetman, low; at Mungindi, low. Barwon: At Mogil Mogil, low; at Walgett, low. Namoi: At Walgett, low. Culgoa: At Goodooga, low. Darling: At Brewarrina, falling, 3ft.; at Bourke, falling, 6ft. 5in.; at Louth, falling, 6ft.; at Tilpa, falling, 9ft. 9in.; at Wilcannia, falling, 17ft. 2in.; at Menindie, 25ft. 1in.; at Pooncarie, 20ft. 5in.; at Wentworth, 21ft. 9in. Murrumbidgee: At Gundagai, falling, 9ft.; at Wagga, 15ft.; at Hay falling, 10ft. 2in.; at Balranald, 16ft. Murray: At Albury, 10ft. 3in.; at Euston, 23ft.

ASTRONOMICAL MEMORANDA FOR NOVEMBER 4.

Sun rises at 4.59, sets at 6.29; Moon, 9.38 p.m., 7.3 a.m.; Mercury, 6.1 a.m., 8.19 p.m.; Venus, 2.58 a.m., 3.3 p.m.; Mars, 2.25 a.m., 1.43 p.m.; Jupiter, 5.16 a.m., 6.45 p.m.; Saturn, 12.31 a.m., 10.49 a.m. Full moon, November 1; new moon, November 15.

High water at Fort Denison, November 4: 10.5 a.m., 10.24 p.m.

H. A. LENEHAN,
Acting Government Astronomer.

SYDNEY OBSERVATORY

LATITUDE 33° 51' 41" S. LONGITUDE 10h. 4m. 50·8s. E.

MAGNETIC VARIATION, 9° 35' 37" E.

Average Annual Rainfall for 28 years .... 49·489

Average for 29 years from Jan. 1 to Oct. 31 .... 44·275

Total Rainfall from Jan. 1, to Nov. 5 1887 .... 19·353

Barometers corrected to 32° Fah. and Mean Sea Level

Fine wind N. Fine wind E

T. storm, wind S. Rain, wind W

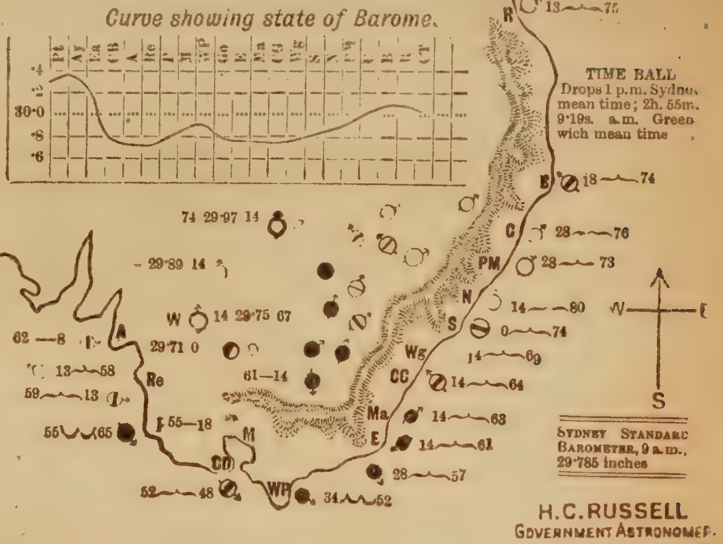
If it is CALM, the symbol used without the arrow

Smooth sea.

Heavy sea.

Very heavy sea.

Stations.	W.T.	Mx	M'n	R'n
Albury	r	82	65	1·22
Armidale	b	83	61	0
Balranald	b	89	52	1·61
Bathurst	o	87	59	0
Bendem'r	g	85	66	0
Bodalla	r	68	62	0·31
Bourke	b	98	73	0·02
Bungarra	u	—	51	0
C'md'n H.	b	79	67	0
C. St. Geo.	f	65	60	0
Carcoar	g	80	54	0·04
Casino	b	92	61	0
Cassilis	o	85	72	0
Clarence	b	79	65	0
C'nd'b'lin	r	98	51	0·23
Cooma	r	75	58	0·37
Coonab'n.	g	89	63	0
Cowra	u	91	66	0·10
Cudg'llico	c	90	65	0·35
Deniliq'n.	r	76	58	2·05
Dubbo	r	92	67	0·06
Eden	r	63	60	0·65
Euston	b	81	56	1·46
Forbes	r	—	46	0·46
G'bo Isl'nd	g	64	57	0·50
Glen Inn's	b	92	55	0
Goulburn	u	89	61	0·14
Grafton	b	91	64	0
Gulgong	b	87	57	0
Gunned'h	b	90	59	0
Hay	c	92	53	0·74
Inverell	c	85	59	0
Kiandra	r	65	47	1·59
Lismore	b	90	59	0
Maitland	c	97	67	0
M'n'ng H.	b	81	61	0
Marsdens	–	—	—	–
Menindie	–	—	—	–
Molong	b	90	56	0
M'r'ng'r'll	r	89	67	0·45
Moree	b	90	65	0
Moruya	r	74	60	0·09
Moss Vale	–	—	—	–
Mt. Hope	g	92	63	0
M. Vict'ria	b	84	63	0
Mudgee	u	99	59	0
M'rr'mb'h	r	86	65	0·40
M'rr'ndi	c	85	68	0
Mus'lbr'k	b	100	64	0
Narrabri	o	93	72	0
Newcastle	b	81	67	0
Orange	g	84	44	0
Picton	c	88	58	0
P. M'q'rie	h	77	61	0
P. St'ph'n	g	86	59	0
Q'nbeyan	r	83	47	0·28
Quirindi	b	96	63	0
Singleton	b	95	69	0
SYDNEY	c	77	63	0
Taralga	g	83	57	0
Taree	b	95	66	0
T'nt'rfield	b	89	61	0
Wagga	r	82	59	0·74
Walcha	c	82	49	0
Walgett	u	99	71	0
Warialda	b	90	62	0
Warrah	b	87	64	0
W'ntw'rth	b	80	59	1·32
W'll'ng'ng	f	79	61	0
Young	r	89	64	0·12



TIME BALL

Drops 1 p.m. Sydney mean time; 2h. 55m. 9·19s. a.m. Greenwich mean time

SYDNEY STANDARD BAROMETER, 9 a.m., 29·785 inches

H. C. RUSSELL

GOVERNMENT ASTRONOMER.

NOTES EXPLANATORY OF MAP.

In the list of stations the column headed W.T. gives the state of the weather at 9 a.m., b, standing for blue sky; c, detached clouds; d, drizzling rain; f, fog; g, gloomy; h, hazy; m, misty; n, frosty; o, overcast; p, passing showers; r, rain; s, snow; t, thunder; u, threatening. The next column, M'x gives the maximum temperature for previous 24 hours; M'n the corresponding minimum temperature; r'n, the rain for the previous 24 hours. The symbols used in the map are explained on the margin. At each coast station the wind symbol is placed like a vane pointing to the direction from which the wind is coming. A clear circle with it means fine weather; a circle with bar, cloudy weather; and a black spot, raining. Next to this symbol are placed figures denoting the number of miles the wind is moving per hour; next, a symbol showing the state of the sea; and, lastly, figures denoting the shade temperature at 9 a.m. The barometer curve shows the state of barometers round the coast from Perth to Cooktown:—Pt, Perth; Ay, Albany; Ea, Eucla; CB, Cape Borda; A, Adelaide; Re, Robe; P, Portland; M, Melbourne; W P, Wilson's Promontory; Go, Gabo; E, Eden; Ma, Moruya; C G, Jervis Bay; Wg, Wollongong; S, Sydney; N, Newcastle; P M, Port Macquarie; C, Clarence River; B, Brisbane; R, Rockhampton; Ct, Cooktown. Inland the state of barometer is given in figures at Albury, Deniliquin, Wentworth, Menindie, Bourke, and Alice Springs. The barometer curve enables one at a glance to trace the depressions, beginning with Western Australia, and passing along eastwards; northerly winds preceding them, and southerly following.

The rainfall on Sundays or holidays, when this map is not published, is in all cases included in the quantities shown by the next following map.

9 A.M. OBSERVATIONS.

Western Australia.—Fine and clear on the west coast; cloudy and unsettled in south parts; light to fresh easterly winds; smooth to moderate sea, but rough off N.W. Cape; strong, squally southerly winds at the head of the Australian Bight. Extremes of barometers and temperature: Albany, 30·41 and 56°; Carnarvon, 29·98 and 80°.

South Australia.—Generally overcast and raining south of Farina; light variable winds and calms; at places fresh N.W. to N.E. winds; smooth to moderate sea. Rainfall: Generally south of Port Augusta, up to half an inch; but at places on the coast from 0·75 to 1·78 inch. The heaviest falls were recorded in S.E. parts. No reports from the Northern Territory. Extremes of barometers and temperature: Eucla, 30·12; Cape Northumberland, 29·62 and 54°; Adelaide, 62°.

Victoria.—Generally cloudy and raining; in parts heavy rains; strong S.E. to E. winds on the coast; moderate and calm inland; moderate to rough sea. Rainfall: Generally moderate; heavy inland, over 2 inches having been recorded at places. Extremes of barometers and temperature; Lakes' Entrance, 29·88; Horsham, 29·68; Echuca, 64°; and Hamilton, 51°.

Tasmania.—Fine generally, with light scattered clouds; fresh S. to E. winds, moderate to rough sea. Extremes of barometers and temperature: Southport, 30·12° and 50°; Circular Heads, 29·98° and 55°.

New Zealand.—Showery on the N.W. coast, cloudy and gloomy generally, fresh N. to W. winds. Barometers: In North, 30·10°; over centre, 29·80°; in South, 29·70°.

Queensland.—Fine in south, more or less cloudy in north, showery on the tropical coast, light N.E. to N.W. winds, smooth to moderate sea. Rain has fallen in the far west parts: Thargomindah, 0·73in.; Boulia, 0·36in.; and still raining lightly. Extremes of barometers and temperature: Brisbane, 30·04°; Thursday Island, 29·91°; Cape Moreton, 72°; and Normanton, 85°.

New South Wales.—Raining throughout the Murrumbidgee, Lachlan, and Monaro pastoral districts; foggy in central coast district, fine in extreme west parts, fine with scattered clouds in N.E., in central and north parts cloudy, threatening weather. Winds are generally light to fresh N.E. to N.W., with calms at places; the sea is smooth. During the last twenty-four hours rains fell generally west and south of a line joining Bourke, Dubbo, Goulburn, and Moruya. Heavy rains fell along the Murray. The following are the highest records, viz.:—Wentworth, 1·32in.; Euston, 1·46in.; Balranald, 1·61in.; Deniliquin, 2·05in.; Albury, 1·22in.; and Kiandra, 1·59in. Deniliquin reports very heavy thunderstorms and rain, continuing without cessation from 6 p.m. to 9 a.m. Extra station: Bega, 1·00in. rain fallen last two days; still raining. Extremes of barometers and temperature: Clarence, 29·98in.; Deniliquin, 29·71°; Newcastle, 80°; and Cooma, 61°. (For further particulars see map.)

3 P.M. OBSERVATIONS.

Victoria.—Portland, S.E., 48, overcast and showery, sea rough, temperature 56°; Cape Otway, E.S.E., 40, squally, gloomy, and misty, sea moderate, temperature 52°; Wilson's Promontory, E.N.E., 48, squally, and misty rain, sea rough, temperature 50°.

New South Wales.—Eden, S., 14, cloudy, and raining, sea smooth, temperature 58°; Moruya, S.W., 28, cloudy, and raining, sea smooth, temperature 64°; Cape St. George, E.N.E., 14, light rain, sea smooth, temperature 67°; Sydney, calm, light rain, sea smooth; Newcastle, N.W., 14, dull, sea smooth, temperature 79°; Port Macquarie, N.N.E., 42, hazy, sea moderate, temperature 75°; Walgett, calm, like storm, temperature 82°; Dubbo, N., 14, light showers, temperature 75°; Goulburn, N.N.W., 42, showery, temperature 69°.

Queensland.—Townsville, calm, partially cloudy, sea smooth, temperature 79°; Mackay, S.E., 18, cloudy, like rain; Rockhampton, E, 23, fine, temperature 80°; Cape Moreton, N.N.E., 23, fine, temperature 76°; Hughenden, N.E., 8, cloudy and sultry; Boulia, E., 18, cloudy and threatening; Blackall, N.W., 8, cloudy and sultry; Thargomindah, N.W.

HEIGHT OF RIVERS ABOVE SUMMER LEVEL.

Macintyre: At Yetman, low; at Mungindi, low. Barwon: At Mogil Mogil, low; at Walgett, low. Namoi: At Walgett, low. Culgoa: At Goodooga, low. Darling: At Brewarrina, falling, 3ft. 9in.; at Bourke, falling, 5ft. 9in.; at Louth, falling, 5ft. 8in.; at Tilpa, falling, 9ft. 1in.; at Wilcannia, falling, 13ft. 6in.; at Wentworth, 21ft. 8in. Murrumbidgee: at Gundagai, stationary, 8ft.; at Wagga, 11ft.; at Hay, falling, 9ft. 10in.; at Balranald, 16ft. Murray: At Albury, 9ft. 6in.; at Euston, 22ft. 11in.

ASTRONOMICAL MEMORANDA FOR NOVEMBER 7.

Sun rises at 4.56, sets at 6.32; Moon, 11.23 p.m., 8.34 a.m.; Mercury, 5.56 a.m., 8.14 p.m.; Venus, 2.53 a.m., 3.1 p.m.; Mars, 2.18 a.m., 1.38 p.m.; Jupiter, 5.2 a.m., 6.34 p.m.; Saturn, 12.20 a.m., 10.38 a.m. Full moon, November 1; new moon, November 15.

High water at Fort Denison, November 7; 12.4 p.m.

H. A. LENEHAN,
Acting Government Astronomer.

Stations.	wt	Mx	m	Rn.
Albury ..	c	70	50	0
Armidale	c	62	51	0·76
Balranald	g	76	46	0
Bathurst	u	53	44	0·14
Bendem'r	r	68	53	0·82
Bodalla ..	r	66	46	0·62
Bourke ..	b	83	50	0
Bundarra	c	—	57	0·90
C'md'n H.	r	64	60	2·42
C. St. Geo.	r	65	51	1·59
Carcoar ..	g	55	34	0·43
Casino ..	c	80	56	0·15
Cassilis ..	r	58	51	0·27
Clarence .	o	76	61	0·10
C'nd'b'lin	r	76	33	0·12
Cooma ..	u	56	39	0·02
Coonab'n.	g	70	49	0·17
Cowra ..	u	78	51	0·13
Cudg'llico	u	83	55	0
Deniliq'n.	c	64	48	0·20
Dubbo ..	g	64	49	0·05
Eden	u	61	48	0·30
Euston ..	c	66	48	0·08
Forbes ..	b	—	44	0·15
G'bo Isl'nd	b	61	51	0·07
Glen Inn's	b	65	48	0·40

13——69 EUCLA

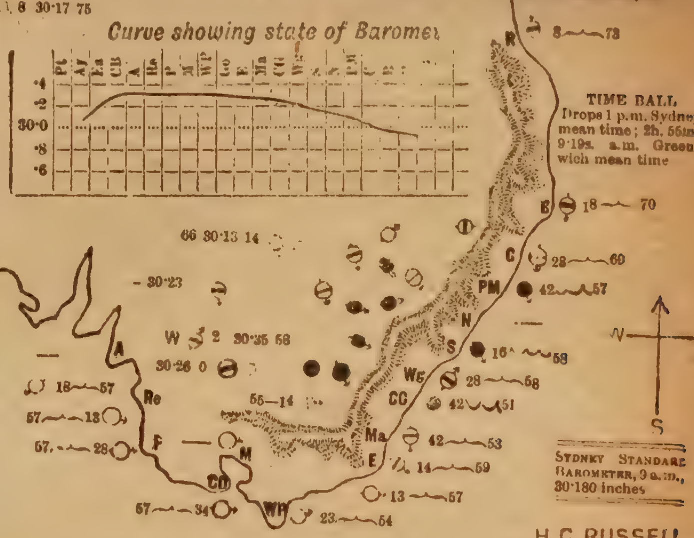
Stations.	wt	Mx	m	Rn.
Goulburn	r	51	40	0·77
Grafton ..	b	73	60	0·22
Gulgong .	u	60	31	0·30
Gunned'h	-	—	—	-
Hay	c	70	52	0
Inverell ..	c	79	51	0·91
Kiandra ..	s	40	7.	0
Lismore. .	u	75	63	0·21
Maitland .	r	62	53	1·65
M'n'ng H.	r	78	57	3·07
Marsdens.	r	61	52	0·11
Menindie.	o	68	51	0
Molong ..	u	79	42	0·24
M'r'ng'r'll	r	57	48	0·32
Moree ..	b	81	52	0·90
Moruya ..	g	61	47	0·69
Moss Vale	-	—	—	-
Mt. Hope	g	77	51	0
M. Vict'ria	r	76	37	0·97
Mudgee ..	r	60	43	0·27
M'rr'mb'h	c	66	41	0·19
M'rr'r'ndi	u	60	52	0·94
Mus'lnr'k	r	61	48	0·72
Narrabri	b	72	53	0·83
Newcastle	-	—	—	—
Orange ..	r	51	34	0·24
Picton ..	u	55	50	1·31
P. M'q'rie	r	67	56	1·47
P. St'ph'n	r	63	56	3·11
Q'nbeyan	c	75	35	0·10
Quirindi	r	66	52	0·06
Singleton	r	63	51	1·20
SYDNEY ..	r	61	52	1·53
Taralga ..	g	61	40	1·45
Taree	r	70	58	1·56
T'nt'rfield	b	65	51	0·47
Wagga ..	b	60	41	0·18
Walcha ..	u	57	44	0·45
Walgett	b	79	52	0
Warialda	-	—	—	-
Warrah ..	r	63	52	0·14
W'ntw'rth	c	66	51	0
W'll'ng'ng	c	59	51	1·01
Young ..	r	57	44	0·28

SYDNEY OBSERVATORY.

LATITUDE 33° 51' 41" S. LONGITUDE 10h. 4m. 50·51s. E.
MAGNETIC VARIATION, 9° 35' 37" E.

Average Annual Rainfall for 28 years .... 49·489
Average for 29 years from Jan. 1 to Oct. 31 ...... 44·275
Total Rainfall from Jan. 1, to Nov. 9 1887 ...... 51·743

Barometers corrected to 32° Fah. and Mean Sea Level



Fine, wind N. Cloudy, wind E. T. storm, wind S. Rain, wind W.
If it is CALM, the symbol used without the arrow.
Smooth sea.
Heavy sea.
Very heavy sea.

H.C. RUSSELL,
GOVERNMENT ASTRONOMER.

NOTES EXPLANATORY OF MAP.

In the list of stations the column headed W.T. gives the state of the weather at 9 a.m., b, standing for blue sky; c, detached clouds; d, drizzling rain; f, fog; g, gloomy; h, hazy; m, misty; n, frosty; o, overcast; p, passing showers; r, rain; s, snow; t, thunder; u, threatening. The next column, M'x gives the maximum temperature for previous 24 hours; M'n the corresponding minimum temperature; r'n, the rain for the previous 24 hours. The symbols used in the map are explained on the margin. At each coast station the wind symbol is placed like a vane pointing to the direction from which the wind is coming. A clear circle with it means fine weather; a circle with bar, cloudy weather; and a black spot, raining. Next to this symbol are placed figures denoting the number of miles the wind is moving per hour; next, a symbol showing the state of the sea; and, lastly, figures denoting the shade temperature at 9 a.m. The barometer curve shows the state of barometers round the coast from Perth to Cooktown:—Pt, Perth; Ay, Albany; Ea, Eucla; CB, Cape Borda; A, Adelaide; Re, Robe; P, Portland; M, Melbourne; W P, Wilson's Promontory; Go, Gabo; E, Eden; Ma, Moruya; C G, Jervis Bay; Wg, Wollongong; S, Sydney; N, Newcastle; P M, Port Macquarie; C, Clarence River; B, Brisbane; R, Rockhampton; Ct, Cooktown. Inland the state of barometer is given in figures at Albury, Deniliquin, Wentworth, Menindie, Bourke, and Alice Springs. The barometer curve enables one at a glance to trace the depressions, beginning with Western Australia, and passing along eastwards; northerly winds preceding them, and southerly following.

The rainfall on Sundays or holidays, when this map is not published, is in all cases included in the quantities shown by the next following map.

9 A.M. OBSERVATIONS.

South Australia.—Generally fine, pleasant weather, with light S.E. to S. winds and calms; smooth sea. In Northern Territory fine and cool, with light easterly winds. Extremes of barometers and temperature: Cape Borda, 30·29; Port Darwin, 29·81; Daly Waters, 85·; and Cape Northumberland, 56·.

Victoria.—Generally fine, pleasant, cool weather; light to fresh easterly winds; smooth to moderate sea. Extremes of barometers and temperature: Lakes Entrance, 30·35; Horsham, 30·23 and 63·; Omeo, 50·.

Tasmania.—Generally fine, but cloudy, light to fresh N.E. to S.E. winds, moderate sea. Extremes of barometers and temperature: Southport, 30·38 and 52·; Falmouth, 30·35; and Low Heads, 54·.

Queensland.—Generally fine, but more or less cloudy and unsettled, light to fresh S.E. to N.E. winds, smooth sea. Extremes of barometers and temperature: Townsville, 29·99; Brisbane, 29·92 and 70·; Normanton, 84·.

New South Wales.—Generally cold. Snowing at Kiandra. Raining steadily throughout the eastern and central territorial divisions, from the Tuross and Murrumbidgee rivers in south, to the Namoi and Macleay in north. Over the remainder of the colony cloudy, dull, and threatening weather prevails, except in the Gwydir, Warrego, and Albert pastoral districts, where the weather continues fine and clear. The decrease in the temperature is still more marked and general than yesterday. Winds are generally light to fresh, and at places rather strong S.E. to easterly; the sea is moderate, but heavy at places. Rain has fallen throughout the eastern and central territorial divisions; heavy in coast districts between Shoalhaven and Macleay rivers, where 13 different stations report from 1 to over 3 inches; moderately heavy in New England, the Gwydir, and Liverpool Plains pastoral districts, where 6 scattered stations report from ½ to 1 inch. Smaller quantities were recorded over the remainder of the rain area. Extremes of barometers and temperature: Wentworth, 30·35; Clarence, 30·01 and 69·; Kiandra, 35·. Camden, 1·85 inch rain fallen. (For further particulars see map.)

3 P.M. OBSERVATIONS.

Victoria.—Portland, E.S.E., 28, fine, sea smooth, temperature 61·; Cape Schanck, E., 18, fine but cloudy, sea moderate, temperature 58·; Wilson's Promontory, E.N.E., 23, fine but cloudy, sea moderate, temperature 53·.

New South Wales.—Sydney, E.S.E., 12, raining steadily, temperature, 59·. Rainfall at Sydney, 9 a.m. to 9 p.m. (on 9th), 0·380 inch.

Queensland.—Mackay, calm, fine; Cape Moreton, E.S.E., 13, fine, temperature 70·.

HEIGHT OF RIVERS ABOVE SUMMER LEVEL.

Macintyre: At Yetman, low; at Mungindi, low. Barwon: At Mogil Mogil, low; at Walgett, low. Namoi: At Walgett, low. Culgoa: At Goodooga, low. Darling: At Brewarrina, falling, 2ft. 7in.; at Bourke, falling, 5ft.; at Louth, falling, 5ft. 3in.; at Tilpa, falling, 8ft. 5in.; at Wilcannia, stationary, 10ft. 10in.; at Menindie, 23ft. 8in.; at Pooncarie, 22ft. 4in.; at Wentworth, 22ft. 8in. Murrumbidgee: At Gundagai, falling, 12ft.; at Wagga, 21ft.; at Hay, rising, 11ft. 9in.; at Balranald, 16in. 4in. Murray: At Albury, 14ft. 3in.; at Euston, 21ft. 7in.

ASTRONOMICAL MEMORANDA FOR NOVEMBER 10.

Sun rises at 4.54, sets at 6.35; Moon, 1.38 a.m., 12.28 p.m.; Mercury, 5.41 a.m., 7.56 p.m.; Venus, 2.49 a.m., 3.0 p.m.; Mars, 2.10 a.m., 1.35 p.m.; Jupiter, 4.53 a.m., 6.35 p.m.; Saturn, 12.8 a.m., 10.26 a.m. Full moon, November 1; new moon, November 15.

High water at Fort Denison; 2.32 a.m., 2.59 p.m.

H. A. LENEHAN,
Acting Government Astronomer.

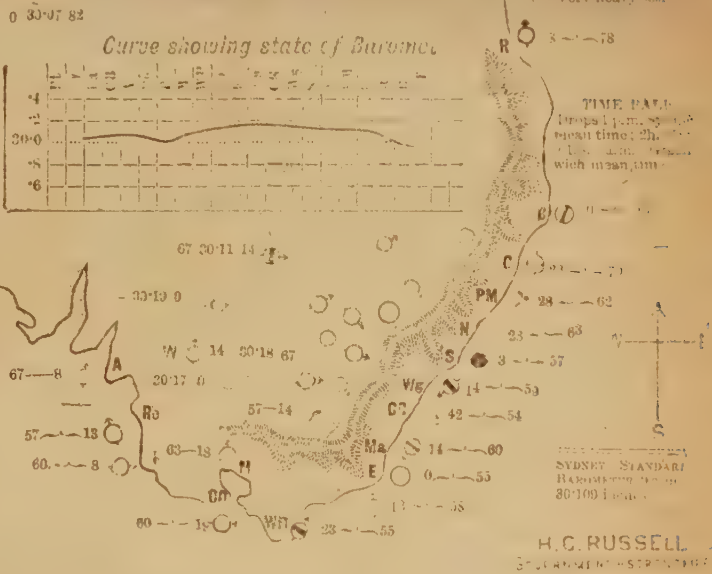
Stations.	wt	Mx	m	Rn.
Albury ..	b	72	49	0
Armidale	c	64	49	0·43
Balranald	b	71	46	0
Bathurst	c	58	43	0·03
Bendem'r	g	66	48	0·14
Bodalla ..	g	68	47	0·45
Bourke ..	u	81	56	0
Bungarra	b	—	56	0·10
C'md'n H.	c	63	58	1·59
C. St. Geo.	r	62	52	0·79
Carcoar ..	b	69	35	0·04
Casino ..	c	85	60	0
Cassilis ..	r	57	51	0·03
Clarence .	c	77	62	0
C'nd'b'lin	b	76	49	0
Cooma ..	c	61	42	0·03
Coonab'n.	b	68	41	0·05
Cowra ..	b	63	48	0·10
Cudg'llico	b	76	46	0
Deniliq'n.	b	78	45	0
Dubbo ..	b	63	41	0
Eden	b	60	50	0·28
Euston ..	b	77	43	0
Forbes ..	b	—	44	0
G'bo Isl'nd	b	65	53	0·12
Glen Inn's	b	87	57	0

13——65
EUCLA

Goulburn	u	55	39	0·04
Grafton ..	b	83	57	0·03
Gulgong .	u	68	28	0
Gunned'h	b	71	50	0·03
Hay . ..	c	74	47	0
Inverell ..	b	75	48	0
Kiandra ..	b	52	20	0
Lismore .	c	84	64	0
Maitland .	u	62	53	1·41
M'n'ng H.	c	58	56	1·89
Marsdens.	b	60	51	0·04
Menindie.	b	72	53	0
Molong ..	b	60	36	0·11
M'r'ng'r'll	b	57	49	0·51
Moree ..	b	86	52	0
Moruya ..	r	63	49	0·21
Moss Vale	r	52	41	0·17

SYDNEY OBSERVATORY.
LATITUDE 33° 51' 41" S. LONGITUDE 10h. 4m. 50·8Is. E.
MAGNETIC VARIATION, 9° 35' 37" E.
Average Annual Rainfall for 28 years. . . . . 49·420
Average for 29 years from Jan. 1 to Oct. 31 . . . . . 44·375
Total Rainfall from Jan. 1, to Nov.10 1887 . . . . . . 52·213
Barometers corrected to 32° Fah. and Mean Sea Level

Fine, wind N. Dull, wind E. Thunderstorm, wind S. Rain, wind W.
If it is CALM, the symbol is used without the arrow.
Smooth sea.
Heavy sea.
Very heavy sea.



Mt. Hope	b	69	48	0
M. Vict'ria	r	76	35	0·53
Mudgee ..	o	59	43	0·08
M'rr'mb'h	b	54	42	0·05
M'rr'r'ndi	c	57	50	0·12
Mus'lbr'k	u	60	49	0·29
Narrabri	b	76	50	0
Newcastle	g	65	51	0·82
Orange ..	b	54	42	0·20
Picton ..	c	58	48	0·62
P. M'q'rie	c	64	54	2·26
P. St'ph'n	g	65	49	0·91
Q'nbeyan	b	79	37	0
Quirindi	b	72	50	0
Singleton	g	63	57	1·09
SYDNEY ..	r	57	52	0·47
Taralga ..	o	61	40	0·12
Taree	c	64	57	0·63
T'nt'rfield	b	75	51	0
Wagga ..	b	74	42	0
Walcha ..	u	56	42	0·07
Walgett	b	78	52	0
Warialda	b	78	49	0
Warrah ..	b	62	51	0·05
W'ntw'rth	b	76	53	0
W'll'ng'ng	c	61	44	0·40
Young ..	b	66	41	0·11

NOTES EXPLANATORY OF MAP.

In the list of stations the column headed W.T. gives the state of the weather at 9 a.m., b, standing for blue sky; c, detached clouds; d, drizzling rain; f, fog; g, gloomy; h, hazy; m, misty; n, frosty; o, overcast; p, passing showers; r, rain; s, showers; t, thunder; u, threatening. The next column, M'x gives the maximum temperature for previous 24 hours; M'n the corresponding minimum temperature; R'n, the rain for the previous 24 hours. The symbols used in the map are explained on the margin. At each coast station the wind symbol is placed like a vane pointing to the direction from which the wind is coming. A clear circle with it means fine weather; a circle with bar, cloudy weather; and a black spot, raining. Next to this symbol are placed figures denoting the number of miles the wind is moving per hour; next, a symbol showing the state of the sea; and, lastly, figures denoting the shade temperature at 9 a.m. The barometer curve shows the state of barometers round the coast from Perth to Cooktown:—Pt. Perth; Ay, Albany; Ea, Eucla; CB, Cape Borda; A, Adelaide; Ro, Robe; P. Portland; M, Melbourne; W P, Wilson's Promontory; Go, Gabo; E, Eden; Ma, Moruya; C G, Jervis Bay; Wg, Wollongong; S, Sydney; N, Newcastle; P M, Port Macquarie; C, Clarence River; B, Brisbane; R, Rockhampton; Ct, Cooktown. Inland the state of barometer is given in figures at Albury, Deniliquin, Wentworth, Menindie, Bourke, and Alice Springs. The barometer curve enables one at a glance to trace the depressions, beginning with Western Australia, and passing along eastwards, northerly winds preceding them, and southerly following.

The rainfall on Sundays or holidays, when this map is not published, is in all cases included in the quantities shown by the next following map.

9 A.M. OBSERVATIONS.

Western Australia.—Fine in N.W. parts; cloudy and gloomy in south; light S.W. to S.E. and E. winds; smooth to moderate sea. Extremes of barometers and temperature: Albany, 30·14 and 59°; Ashburton, 29·92 and 85°.

South Australia.—Generally fine and warm, with light variable winds and calms, but tending to north-easterlies; smooth sea. In the Northern Territory, fine, with S.E. winds. Extremes of barometers and temperature: Alice Springs, 30·07; Robe, 30·01 and 57°; Port Darwin, 87°.

Victoria.—Generally fine, with scattered clouds; light N.E. to S.E. winds, smooth sea. Rain has fallen at scattered places inland, generally from 0·07 to 0·19 inch. Extremes of barometers and temperature: Ballarat, 30·16; Hamilton, 29·92; Horsham, 64°; and Wilson's Promontory, 55°.

Tasmania.—Cloudy and showery on the north coast; fine in S.E. parts; light to fresh north-easterly winds; smooth to moderate sea. Rainfall: Circular Heads, 0·23 inch. Extremes of barometers and temperature: Falmouth, 30·15 and 56°; Circular Heads, 30·04 and 52°.

New Zealand.—Generally fine, calm in north; westerly winds to southward. Barometers: Generally 30·10.

Queensland.—Fine inland, more or less cloudy and unsettled along the coast; light to fresh N.E. to S.E. winds; heavy thunderstorm with rain in the Wide Bay districts; from 1in. to 1½in. rain recorded. Extremes of barometers and temperature: Brisbane, 30·00 and 67°; Normanton, 29·90 and 88°.

New South Wales.—Showery in central coast districts south from Sydney; cloudy, gloomy, and unsettled over the remainder of coast districts; fine, clear, and cool west of the dividing ranges. Winds are generally light to fresh S.E. to easterly and calms. The sea is moderating. During the past 24 hours rains fell generally over the Pacific or eastern slopes of the colony, except in extreme north. The high table lands of New England and the eastern portions of the Lachlan and Wellington pastoral districts also recorded rains. The heaviest falls occurred on and near the coast between Newcastle and Port Macquarie, where several scattered stations report from 1 to over 2 inches. Extremes of barometers and temperature: Forbes, 30·20; Clarence, 30·06 and 70°; Mount Victoria, 46°. Extra stations.—Rainfall: Camden, 0·37 inch: Bega, 0·82 inch last two days. (For further particulars see map.)

3 P.M. OBSERVATIONS.

Victoria.—Portland, S., 18, fine but cloudy, smooth sea, temperature 64°; Cape Otway, E.S.E., 13, fine, smooth sea, temperature 62°; Melbourne, N., 13, cloudy and gloomy, temperature 65°; Wilson's Promontory, N.E., 13, fine but sultry, smooth sea, temperature 59°; Lakes Entrance, N.E., 5, passing showers, temperature 66°; Omeo, S.W., 8, cloudy and gloomy, temperature 52°.

New South Wales.—Menindie, calm, fine, temperature 70°; Wentworth, S.S.W., 14, fine but cloudy, temperature 64°; Deniliquin, calm, fine, temperature 71°; Eden, N.E., 42, fine, smooth sea, temperature 61°; Moruya, N.E., 28, fine but cloudy, smooth sea, temperature 65°; Cape St. George, S., 42, fine, sea moderating fast, temperature 62°; Sydney, S.E., 7, cloudy but clearing, smooth sea, temperature 60°; Newcastle, S.E., 28, fine, smooth sea, temperature 65°; Port Macquarie, S.E., 28, fine, smooth sea, temperature 72°; Clarence River, S., 42, fine, moderate sea, temperature 69°; Walgett, S.W., 14, fine, temperature 77°; Dubbo, S.E., 14, fine, temperature 65°; Goulburn, S.E., 14, dull and like rain, temperature 60°.

Queensland.—Townsville, N., 28, fine, slight sea, temperature 82°; Mackay, N., 28, cloudy and hot; Rockhampton, N.N.E., 18, fine but cloudy, temperature 86°; Cape Moreton, S.E., 23, cloudy, temperature 63°; Brisbane, N.N.W., 13, overcast, thunderstorm with heavy rain, temperature 64°; Hughenden, W., 28, fine and hot; Boulia, S.S.E., 23, cool; Blackall, N.W., fine and warm; Thargomindah, E., 13, fine; Roma, S.W., 8, fine but cloudy, temperature 86°.

HEIGHT OF RIVERS ABOVE SUMMER LEVEL.

Macintyre: At Yetman, low; at Mungindi, low. Barwon: At Mogil Mogil, low; at Walgett, low. Namoi: At Walgett, low. Culgoa: At Goodooga, low. Darling: At Brewarrina, falling, 2ft. 6in.; at Bourke, stationary, 5ft.; at Louth, falling, 5ft. 1in.; at Tilpa, falling, 8ft. 3in.; at Wilcannia, falling, 10ft. 10in.; at Menindie, falling, 24ft. 6in.; at Pooncarie, 22ft. 4in.; at Wentworth, 21ft. 8in. Murrumbidgee: At Gundagai, falling, 10ft. 6in.; at Wagga, 20ft. 9in.; at Hay, rising, 12ft. 3in.; at Balranald, 16ft. 4in. Murray: At Albury, 14ft.; at Euston, 22ft. 6in.

ASTRONOMICAL MEMORANDA FOR NOVEMBER 11.

Sun rises at 4.53, sets at 6.36; Moon, 2.18 a.m., 1.34 p.m.; Mercury, 5.37 a.m., 7.50 p.m.; Venus, 2.48 a.m., 2.59 p.m.; Mars, 2.8 a.m., 1.34 p.m.; Jupiter, 4.50 a.m., 6.22 p.m.; Saturn, 12.4 a.m., 10.22 a.m. Full moon, November 1; new moon, November 15.

High water at Fort Denison; 5.56 a.m., 3.38 p.m.

H. A. LENEHAN,
Acting Government Astronomer.

Stations.	W.T.	M'x	M'n	r'n
Albury ..	b	74	44	0
Armidale	b	70	51	0
Balranald	b	72	40	0
Bathurst	u	62	45	0·24
Bendem'r	c	73	46	0
Bodalla ..	b	63	43	0·07
Bourke ..	b	84	54	0
Buncarra	b	–	52	0
C'md'n H.	b	68	56	0
C. St. Geo.	b	67	52	0·10
Carcoar ..	g	65	39	0·08
Casino ..	b	84	65	0·07
Cassilis ..	b	63	57	0·01
Clarence .	b	76	59	0
C'nd'b'lin	b	81	51	0
Cooma ..	c	70	38	0·20
Coonab'n.	b	77	37	0
Cowra ..	b	78	50	0·09
Cudg'llico	b	79	51	0
Deniliq'n.	g	80	50	0
Dubbo ..	b	77	46	0
Eden	b	62	50	0·20
Euston ..	g	89	47	0
Forbes ..	b	—	47	0
G'bo Isl'nd	b	65	53	0·01
Glen Inn's	b	77	46	0
Goulburn	b	67	40	0·14
Grafton ..	b	79	57	0
Gulgong .	b	68	36	0
Gunned'h	b	77	53	0
Hay ..	u	81	50	0
Inverell. .	b	77	46	0
Kiandra. .	c	59	27	0
Lismore .	b	83	62	0·02
Maitland.	b	70	54	0
M'n'ng H.	b	66	56	0
Marsdens.	b	75	55	0
Menindie.	b	78	56	0
Molong ..	b	65	41	0
M'r'ng'r'll	b	71	50	0
Moree ..	b	83	51	0
Moruya ..	b	69	50	0·02
Moss Vale	b	58	45	0·30
Mt. Hope	b	78	55	0
M. Vict'ria	b	63	40	0·20
Mudgee ..	b	71	41	0
M'rr'mb'h	b	69	44	0
M'rr'r'ndi	b	64	54	0
Mus'lbr'k	g	62	52	0
Narrabri	b	85	44	0
Newcastle	c	70	54	0
Orange ..	b	68	43	0·03
Picton ..	b	62	46	0·41
P. M'q'rie	b	70	53	0·11
P. St'ph'n	g	69	54	0
Q'nbeyan	b	80	40	0
Quirindi	b	82	52	0
Singleton	g	66	58	0
SYDNEY ..	b	63	54	0·36
Taralga ..	b	66	42	0
Taree	b	71	55	0·24
T'nt'rfield	b	79	53	0
Wagga ..	b	81	42	0
Walcha ..	c	65	42	0
Walgett	b	80	53	0
Warialda	b	80	46	0
Warrah ..	b	72	51	0
W'ntw'rth	b	82	52	0
W'll'ng'ng	b	70	48	0·1
Young ..	b	74	41	6

NOTES EXPLANATORY OF MAP.

In the list of stations the column headed W.T. gives the state of the weather at 9 a.m., b, standing for blue sky; c, detached clouds; d, drizzling rain; f, fog; g, gloomy; h, hazy; m, misty; n, frosty; o, overcast; p, passing showers; r, rain; s, snow; t, thunder; u, threatening. The next column, M'x gives the maximum temperature for previous 24 hours; M'n the corresponding minimum temperature; r'n, the rain for the previous 24 hours. The symbols used in the map are explained on the margin. At each coast station the wind symbol is placed like a vane pointing to the direction from which the wind is coming. A clear circle with it means fine weather; a circle with bar, cloudy weather; and a black spot, raining. Next to this symbol are placed figures denoting the number of miles the wind is moving per hour; next, a symbol showing the state of the sea; and, lastly, figures denoting the shade temperature at 9 a.m. The barometer curve shows the state of barometers round the coast from Perth to Cooktown:—Pt, Perth; Ay, Albany; Ea, Eucla; CB, Cape Borda; A, Adelaide; Re, Robe; P, Portland; M, Melbourne; W P, Wilson's Promontory; Go, Gabo; E, Eden; Ma, Moruya; C G, Jervis Bay; Wg, Wollongong; S, Sydney; N, Newcastle; P M, Port Macquarie; C, Clarence River; B, Brisbane; R, Rockhampton; Ct, Cooktown. Inland the state of barometer is given in figures at Albury, Deniliquin, Wentworth, Menindie, Bourke, and Alice Springs. The barometer curve enables one at a glance to trace the depressions, beginning with Western Australia, and passing along eastwards; northerly winds preceding them, and southerly following.

The rainfall on Sundays or holidays, when this map is not published, is in all cases included in the quantities shown by the next following map.

9 A.M. OBSERVATIONS.

Western Australia.—Generally fine, but unsettled; light to fresh S. to E. winds; smooth sea. Rainfall: 0·01in. on the S.E. coast. Extremes of barometers and temperature: Esperance Bay, 30·16; Ashburton, 29·92; Cessack, 77.; and Albany, 64°.

South Australia.—Generally fine and cool, but more or less cloudy south of Port Augusta; squally on the coast; showery in S.E. parts; fine in central and northern districts; fresh S.W. to S. winds, moderate to rough sea. Rainfall: Generally over S.E. parts; Millicent, 0·18; Mount Gambier, 0·20in. Extremes of barometers and temperature: Eucla, 30·18; Cape Northumberland, 29·82 and 55°; Port Darwin, 89°.

Victoria.—Generally cloudy, and in parts showery or threatening rain; light to fresh W. to N.W. winds; smooth sea. Rainfall: Generally from 0·04 to 0·31 inch. Thunderstorms have occurred in S.E. parts. Extrees of barometers and temperature: Horsham, 29·87 and 59°; Wilson's Promontory, 29·76; and Hamilton, 51°.

Tasmania.—Generally cloudy and showery; light to fresh S.E. winds; smooth to moderate sea. Rainfall: Generally from 0·03 to 0·60inch. Extremes of barometers and temperature: Southport, 29.84; Circular Heads, 29·70; Hobart, 57; and Falmouth, 52°.

New Zealand.—Generally gloomy or raining lightly; light N.E. winds. Barometers: Generally 30·00.

Queensland.—Generally fine, except in S.E. parts, where it is more or less cloudy and gloomy; light N.E. to S.E. winds; smooth sea. Heavy thunderstorms, with heavy rains occurred yesterday in the Moreton and Wide Bay districts, and on the Darling Downs, from 1 to over 3 inches were recorded. Extremes of barometers and temperature: Brisbane, 29·98; Normanton, 29·91, and 88°; Cape Moreton, 70°.

New South Wales.—Generally fine and cool, with scattered clouds in N.E. parts, and along the southern border; light to fresh N.W. to S.W. winds; smooth to moderate sea. Rain has fallen in central and south coast and mountain districts, but light and partial, heaviest 0·36in. at Sydney. Extremes of barometers and temperature: Menindie, 30·13; Gabo, 29·82; Clarence, 76°; and Kiandra, 50°. Extra station.—Camden, 0·35in. rain. (For further particulars see map.)

3 P.M. OBSERVATIONS.

South Australia.—Adelaide, S., 23, fine, temperature 60°.

Victoria.—Portland, S.S.W., 40, showery, smooth sea, temperature 54°; Cape Otway, W.S.W., 28, cloudy and gloomy smooth sea, temperature 52°; Melbourne, W., 18, showery, temperature 55°; Cape Schanck, S.W., 23, fine but cloudy, moderate sea, temperature 59°; Wilson's Promontory, W.S.W., 18, cloudy, smooth sea, temperature 56°; Lakes Entrance, W.S.W., 18, thunderstorms, temperature 60°.

New South Wales.—Menindie, S.W., 28, cloudy and cool, temperature 70°; Wentworth, S.W., 14, fine, temperature 6[illegible]; Deniliquin, calm, fine, temperature 68°; Eden, N.E., 14, cloudy and like rain, smooth sea, temperature 68°; Moruya, N.E., [illegible] thunderstorms passing from W. to E., moderate sea, temperature [illegible] 66°; Cape St. George, N.E., 56, cloudy and like a change, moderate sea, temperature 65°; Sydney, E.N.E., 20, heavy thunderstorm with hail at 3.30 p.m., moderate sea, temperature 65°; Newcastle, N.E., 14, fine, smooth sea, temperature 6[illegible]; Port Macquarie, S.E., 28, fine, smooth sea, temperature 7[illegible]; Clarence River, S.E., 14, fine, smooth sea, temperature 7[illegible]; Walgett, N.W., 14, fine, temperature 80°; Dubbo, N.W., fine, temperature 70°; Goulburn, N.W., 14, dull, temperature [illegible]

Queensland.—Townsville, N.E., 18, cloudy and sultry, smooth sea, temperature 83°; Mackay, N., 40, cloudy and threatening; Rockhampton, S.E., 23, threatening, temperature 81°; C[illegible] Moreton, E.S.E., 13, fine, temperature 77°; Brisbane, N.E., fine, temperature 78°; Hughenden, W., 13, fine and hot; Bou[illegible] S.E., fine; Blackall, calm, fine and warm; Roma, calm, fine, temperature 88°.

HEIGHT OF RIVERS ABOVE SUMMER LEVEL.

Macintyre: At Yetman, low; at Mungindi, low. Barwon: At Mogil Mogil, low; at Walgett, low. Namoi: At Walgett, low. Culgoa: At Goodooga, low. Darling: At Brewarrina, falling, 2[illegible] 5in.; at Bourke, stationary, 5ft.; at Louth, falling, 5ft.; Tilpa, falling, 8ft. 1in.; at Wilcannia, falling, 10ft. 8in.; at Menindie, falling, 24ft. 4in.; at Pooncarie, 22ft. 2in.; at Wentworth, 21ft. 7in. Murrumbidgee: At Gundagai, falling, 10ft.; Wagga, 19ft.; at Hay, rising, 12ft. 10in.; at Balranald, 16[illegible] 2in. Murray: At Albury, 13ft. 11in.; at Euston, 22ft. 4in.

ASTRONOMICAL MEMORANDA FOR NOVEMBER 12.

Sun rises at 4.52, sets at 6.37; Moon, 2.57 a.m., 2.41 p.m.; Mercury, 5.32 a.m., 7.44 p.m.; Venus, 2.47 a.m., 2.59 p.m.; Mars, 2.5 a.m., 1.33 p.m.; Jupiter, 4.47 a.m., 6.19 p.m.; Saturn, 1[illegible] a.m., 10.18 a.m. Full moon, November 1; new moon, November 15.

High water at Fort Denison; 4.58 a.m., 5.39 p.m.

H. A. LENEHAN,
Acting Government Astronomer.

Stations.	wt	Mx	m	Rn
Albury ..	c	70	49	0·06
Armidale	b	70	52	0
Balranald	b	76	45	0
Bathurst	b	70	43	0·01
Bendem'r	c	76	45	0
Bodalla ..	g	64	47	0·11
Bourke ..	b	91	59	0
Bungarra	[illegible]	—	55	0
C'md'n H.	b	73	61	0
C. St. Geo.	b	75	51	0·15
Carcoar ..	g	65	36	0·09
Casino ..	b	89	58	0
Cassilis ..	c	72	55	0
Clarence .	b	79	59	0
C'nd'b'lin	g	86	36	0
Cooma ..	r	72	35	0·11
Coonab'n.	b	80	46	0
Cowra ..	g	76	46	0·02
Cudg'llico	c	85	50	0
Deniliq'n.	b	71	45	0·04
Dubbo ..	b	80	46	0
Eden	r	70	49	0·38
Euston ..	b	70	45	0
Forbes ..	g	—	45	0
G'bo Isl'nd	r	67	59	1·60
Glen Inn's.	b	83	46	0

18——59 EUCLA

Stations.	wt	Mx	m	Rn
Goulburn	g	72	39	0·24
Grafton ..	b	81	58	0
Gulgong .	b	73	36	0
Gunned'h	b	81	56	0
Hay	c	72	48	0
Inverell . .	b	78	46	0
Kiandra . .	s	54	37	0·31
Lismore . .	b	86	6[illegible]	0
Maitland .	b	78	58	0·01
M'n'ng H.	b	72	55	0
Marsdens.	g	76	55	0
Menindie.	b	75	52	0
Molong ..	u	[illegible]	43	0
M'r'ng'r'll	c	77	49	0
Moree ..	b	87	57	0
Moruya ..	b	72	48	0·36
Moss Vale	b	67	44	0·12
Mt. Hope	b	84	48	0
M. Vict'ria	b	73	37	0·04
Mudgee ..	b	81	44	0·05
M'rr'mb'h	c	72	47	0
M'rr'r'ndi	b	71	56	0
Mus'lbr'k	b	86	54	0
Narrabri	b	85	56	0
Newcastle	b	71	54	0
Orange ..	b	68	44	0
Picton ..	b	73	45	0·34
P. M'q'rie	b	72	55	0
P. St'ph'n	b	79	60	0
Q'nbeyan	c	77	37	0·33
Quirindi	b	83	56	0
Singleton	b	78	60	0
SYDNEY ..	b	68	55	0·63
Taralga ..	g	63	36	0·17
Taree	b	79	50	0
T'nt'rfield	b	78	43	0
Wagga ..	b	78	39	0
Walcha ..	b	66	41	0
Walgett	b	87	55	0
Warialda	b	82	49	0
Warrah ..	b	77	53	0
W'ntw'rth	b	69	48	0
W'll'ng'ng	b	71	50	0·35
Young ..	u	77	44	0·17

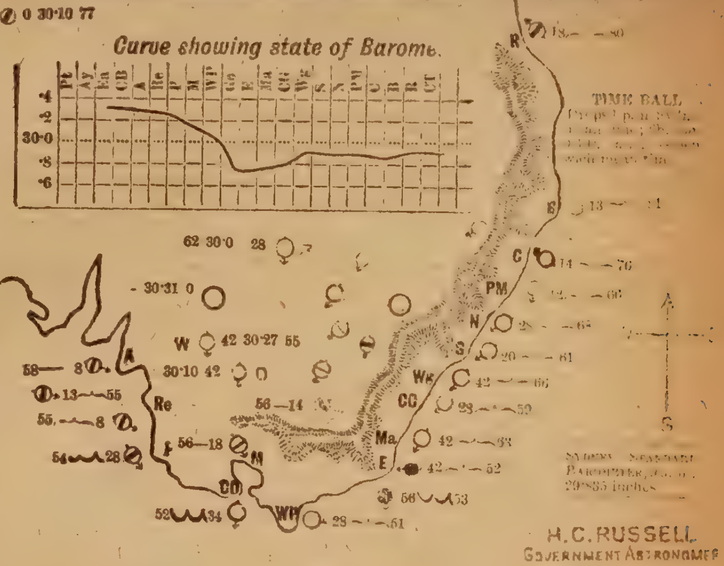
SYDNEY OBSERVATORY.

LATITUDE 33° 51' 41" S. LONGITUDE 10h. 4m. 50·81s. E.

MAGNETIC VARIATION, 9° 35' 37" E.

Average Annual Rainfall for 28 years ....49·489
Average for 29 years from Jan. 1 to Oct. 31 ...... 44·275
Total Rainfall from Jan. 1, to Nov. 13 1887 ...... 58·203

Barometers corrected to 32° Fah. and Mean Sea Level



NOTES EXPLANATORY OF MAP.

In the list of stations the column headed W.T. gives the state of the weather at 9 a.m., b, standing for blue sky; c. detached clouds; d, drizzling rain: f, fog; g, gloomy; h, hazy; m, misty; n, frosty: o, overcast; p, passing showers; r, rain; s, snow; t, thunder; u, threatening. The next column, M'x gives the maximum temperature for previous 24 hours; M'n the corresponding minimum temperature; r'n, the rain for the previous 24 hours. The symbols used in the map are explained on the margin. At each coast station the wind symbol is placed like a vane pointing to the direction from which the wind is coming. A clear circle with it means fine weather; a circle with bar, cloudy weather; and a black spot, raining. Next to this symbol are placed figures denoting the number of miles the wind is moving per hour; next, a symbol showing the state of the sea; and, lastly, figures denoting the shade temperature at 9 a.m. The barometer curve shows the state of barometers round the coast from Perth to Cooktown:—Pt, Perth; Ay, Albany; Ea, Eucla; CB, Cape Borda; A, Adelaide; Rc, Robe; P, Portland; M, Melbourne; W P, Wilson's Promontory; Go, Gabo; E, Eden; Ma, Moruya; C G, Jervis Bay; Wg, Wollongong; S, Sydney; N, Newcastle; P M, Port Macquarie; C, Clarence River; B, Brisbane; R, Rockhampton; Ct, Cooktown. Inland the state of barometer is given in figures at Albury, Deniliquin, Wentworth, Menindie, Bourke, and Alice Springs. The barometer curve enables one at a glance to trace the depressions, beginning with Western Australia, and passing along eastwards; northerly winds preceding them, and southerly following.

The rainfall on Sundays or holidays, when this map is not published, is in all cases included in the quantities shown by the next following map.

9 A.M. OBSERVATIONS.

Western Australia.—No reports.

South Australia.—Generally fine and cool; partially cloudy south of Port Augusta; gloomy in parts; fresh S.W. to S.E. winds, smooth to moderate sea. Rainfall: Generally over S.E. parts; Penola, Millicent, and Mount Gambier, 0·21in. Extremes of barometers and temperature: Cape Borda, 30·30; Daly Waters, 91°; Port Darwin, 29·89; and Cape Northumberland, 52°.

Victoria.—Generally fine, but more or less cloudy, and near the coast squally; fresh to strong S.W. to S.E. winds; moderate to rough sea. Rainfall: Generally, heaviest 1·17in. at Lakes' Entrance. Extremes of barometers and temperature: Portland, 30·24; Omeo, 29·82; Ballarat, 46°; and Horsham, 59°.

Tasmania.—Generally cloudy and unsettled; fresh to strong S.E. to S.W. winds; moderate to rough sea. Extremes of barometers and temperature: Southport, 30·24; Falmouth, 30·16; Hobart, 47°; and Low Heads, 54°.

New Zealand.—Generally cloudy and showery; S.E. winds in north, N.W. winds to southward. Barometers: Generally 29·80.

Queensland.—Generally fine, except in N.E. parts, where cloudy and gloomy weather prevails; fresh S.E. to N.E. and N.W. winds, smooth sea. Thunderstorms with light rain yesterday at Hervey's Bay and on the tropical coast. Thornborough recorded 0·91in. Extremes of barometers and temperature: Townsville, 29·98; Brisbane, 29·80; Cape Moreton, 74°; and Normanton, 87°.

New South Wales.—Generally fine and cool, but cloudy and unsettled in S.E. parts, and showery in Monaro pastoral district; snowing at Kiandra. Winds are generally fresh to strong and squally from west to south; the sea is generally smooth, but rather rough off Gabo Island. Rain has fallen in the districts lying E. and S. of a line joining Deniliquin, Mudgee, and Newcastle. Extremes of barometers and temperature: Wentworth, 30·27; Gabo, 29·72; Clarence, 76°; and Kiandra, 41°. (For further particulars see map.)

3 P.M. OBSERVATIONS.

New South Wales.—Menindie, S.W., 28, fine and clear, temperature 66°; Wentworth, S., 14, fine and clear, temperature 58°; Deniliquin, calm, fine, temperature 68°; Moss Vale, incessant rain all Saturday night and Sunday; Moruya, S.W., 14, raining with thunder, smooth sea, temperature 48°; Cape St. George, S., 28, cloudy and dull, moderate sea, temperature 64°; Sydney, W.S.W., 29, overcast and threatening; Newcastle, S.E., 28, fine, smooth sea, temperature 66°; Port Macquarie, S., 42, fine, smooth sea, temperature 76°; Clarence River, S., 56, fine, smooth sea, temperature 74°; Walgett, S.W., 14, fine, temperature 78°; Dubbo, S.W., 42, fine but cloudy, temperature 64°; Goulburn, S.W., 14, showery, temperature 60°.

Queensland.—Townsville, N., 8, fine and sultry, smooth sea, temperature 86°; Mackay, N., 23, fine; Rockhampton, S.W., 13, fine, temperature 89°; Cape Moreton, N., 18, fine and hazy, temperature 75°; Brisbane, W.N.W., 23, squally with hail, temperature 90°; Hughenden, S.E., 8, fine and very hot; Boulia, E., 8, fine; Blackall, S.E., fine, clear, and hot; Thargomindah, S.E., 13, cloudy.

HEIGHT OF RIVERS ABOVE SUMMER LEVEL.

Macintyre: At Yetman, low; at Mungindi, low. Barwon: At Mogil Mogil, low; at Walgett, low. Namoi: At Walgett, low. Culgoa: At Goodooga, low. Darling: At Brewarrina, falling, 2ft. 3in.; at Bourke, stationary, 5ft.; at Louth, falling, 4ft. 11in.; at Tilpa, falling, 7ft. 11in.; at Wilcannia, falling, 10ft.; at Menindie, falling, 24ft. 3in.; at Pooncarie, 22ft. 3in.; at Wentworth, 21ft. 6in. Murrumbidgee: At Gundagai, stationary, 9ft. 10in.; at Wagga, 17ft. 9in.; at Hay, rising, 13ft. 6in.; at Balranald, 16ft. Murray: At Albury, 13ft. 6in.; at Euston, 22ft. 3in.

ASTRONOMICAL MEMORANDA FOR NOVEMBER 14.

Sun rises at 4.50, sets at 6.39; Moon, 4.18 a.m., 4.58 p.m.; Mercury, 5.23 a.m., 7.31 p.m.; Venus, 2.44 a.m., 2.58 p.m.; Mars, 2.0 a.m., 1.30 p.m.; Jupiter, 4.41 a.m., 6.13 p.m.; Saturn, 11.53 p.m., 10.11 a.m. Full moon, November 1; new moon, November 15.

High water at Fort Denison; 7.3 a.m., 7.30 p.m.

H. A. LENEHAN,
Acting Government Astronomer.

Stations.	wt	Mx	m'n	r'n
Albury ..	b	73	45	0
Armidale	c	69	46	0·04
Balranald	b	83	50	0
Bathurst	b	61	42	0·04
Bendem'r	g	67	43	0·07
Bodalla ..	c	57	42	0·47
Bourke ..	b	83	56	0
Bungarra	b	—	52	0
C'md'n H.	c	71	58	1·90
C. St. Geo.	r	59	51	0·59
Carcoar ..	b	60	34	0·03
Casino ..	b	84	54	0
Cassilis ..	c	64	54	0·05
Clarence .	g	80	59	0
C'nd'b'lin	b	78	49	0
Cooma ..	c	56	44	0·45
Coonab'n.	b	72	46	0
Cowra ..	b	80	48	0
Cudg'llico	b	79	49	0
Deniliq'n.	b	79	60	0
Dubbo ..	b	76	44	0
Eden	b	65	43	0
Euston ..	b	81	47	0
Forbes ..	b	—	47	0
G'bo Isl'nd	-	-	-	-
Glen Inn's	b	75	44	0·01
Goulburn	b	55	33	0·05
Grafton ..	g	83	62	0
Gulgong .	b	68	33	0
Gunned'h	b	75	48	0
Hay	b	76	48	0
Inverell ..	b	78	49	0
Kiandra ..	b	45	35	0
Lismore .	c	82	60	0
Maitland .	r	76	57	0·41
M'n'ng H.	r	79	56	0·78
Marsdens.	b	72	51	0
Menindie.	b	74	52	0
Molong ..	b	69	39	0
M'r'ng'r'll	b	72	46	0
Moree ..	b	82	51	0
Moruya ..	c	63	48	0·41
Moss Vale	g	58	43	0·83
Mt. Hope	b	83	53	0
M. Vict'ria	c	73	37	0·08
Mudgee ..	c	74	39	0·03
M'rr'mb'h	b	48	40	0
M'rr'r'ndi	c	60	52	0·13
Mus'lhr'k	c	62	50	0·02
Narrabri	b	80	49	0
Newcastle	g	65	54	0·46
Orange ..	b	58	41	0
Picton ..	u	62	45	0·03
P. M'q'rie	r	70	55	0·77
P. St'ph'n	c	75	50	0·93
Q'nbeyan	b	83	41	0·13
Quirindi	b	74	53	0
Singleton	g	75	57	0
SYDNEY ..	r	61	58	0·63
Taralga ..	b	66	32	0·25
Taree	c	67	57	0·86
T'nt'rfield	g	74	47	0
Wagga ..	b	82	36	0
Walcha ..	c	59	41	0·03
Walgett	b	78	55	0
Warialda	b	81	47	0
Warrah ..	c	72	53	0
W'ntw'rth	b	76	50	0
W'll'ng'ng	c	61	48	0·65
Young ..	b	72	41	0

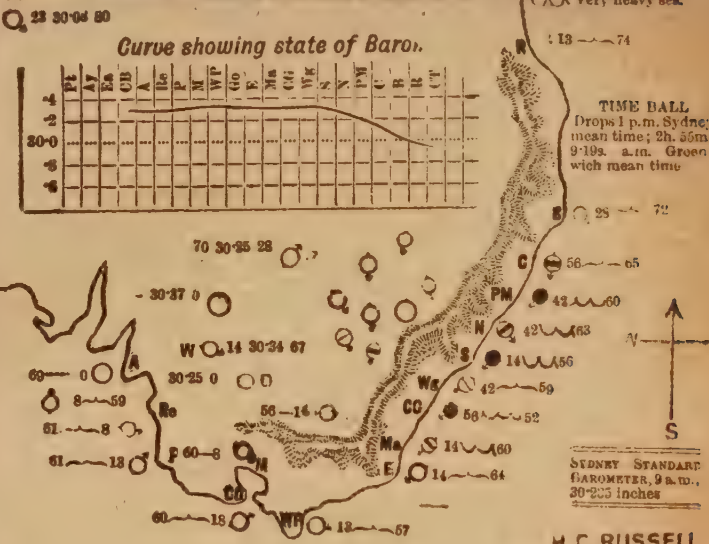
SYDNEY OBSERVATORY.

LATITUDE 33° 51' 41" S. LONGITUDE 10h. 4m. 50·81s. E.
MAGNETIC VARIATION, 9° 35' 37" E.

Average Annual Rainfall for 28 years................49·480
Average for 29 years from Jan. 1 to Oct. 31 ...... 44·275
Total Rainfall from Jan. 1, to Nov. 14 1887 ...... 53·831

Barometers corrected to 32° Fah. and Mean Sea Level

Fine, wind N. Cloudy wind E. T. storm, wind S. Rain, wind W.
If it is CALM, the symbol used without the arrow
~~ Smooth sea.
Heavy sea.
Very heavy sea.



TIME BALL
Drops 1 p.m. Sydney mean time; 2h. 55m 9·19s. a.m. Greenwich mean time

SYDNEY STANDARD BAROMETER, 9 a.m., 30·2?3 inches

H. C. RUSSELL
GOVERNMENT ASTRONOMER

NOTES EXPLANATORY OF MAP.

In the list of stations the column headed W.T. gives the state of the weather at 9 a.m., b, standing for blue sky; c, detached clouds; d, drizzling rain; f, fog; g, gloomy; h, hazy; m, misty; n, frosty; o, overcast; p, passing showers; r, rain; s, snow; t, thunder; u, threatening. The next column, M'x gives the maximum temperature for previous 24 hours; M'n the corresponding minimum temperature; r'n, the rain for the previous 24 hours. The symbols used in the map are explained on the margin. At each coast station the wind symbol is placed like a vane pointing to the direction from which the wind is coming. A clear circle with it means fine weather; a circle with bar, cloudy weather; and a black spot, raining. Next to this symbol are placed figures denoting the number of miles the wind is moving per hour; next, a symbol showing the state of the sea; and, lastly, figures denoting the shade temperature at 9 a.m. The barometer curve shows the state of barometers round the coast from Perth to Cooktown:—Pt, Perth; Ay, Albany; Ea, Eucla: CB, Cape Borda; A, Adelaide; Re, Robe; P, Portland; M, Melbourne; W P, Wilson's Promontory; Go, Gabo; E, Eden; Ma, Moruya; C G, Jervis Bay; Wg, Wollongong; S, Sydney; N, Newcastle; P M, Port Macquarie; C, Clarence River; B, Brisbane; R, Rockhampton; Ct, Cooktown. Inland the state of barometer is given in figures at Albury, Deniliquin, Wentworth, Menindie, Bourke, and Alice Springs. The barometer curve enables one at a glance to trace the depressions, beginning with Western Australia, and passing along eastwards; northerly winds preceding them, and southerly following.

The rainfall on Sundays or holidays, when this map is not published, is in all cases included in the quantities shown by the next following map.

9 A.M. OBSERVATIONS.

South Australia.—Generally fine and warm, with scattered clouds, and light S.E. to N.E. winds and calms. Extremes of barometers and temperature; Cape Northumberland, 30·37 and 57°; Port Darwin, 29·92; and Daly Waters, 92°.

Victoria.—Generally fine or partially cloudy, light S.W. to S.E. winds and calms; sea smooth to moderate. Extremes of barometers and temperature: Cape Otway, 30·29; Omeo, 30·21 and 53°; and Horsham, 63°.

Tasmania.—Generally fine, scattered clouds in N.E. parts, light W. to S.W. winds and calms; sea smooth. Extremes of barometers and temperature: Low Head, 30·24 and 55°; Falmouth, 30·15 and 58°.

New Zealand.—Fine, except in north parts, where it is cloudy and gloomy; light to fresh N. to N.W. winds. Barometers: In north and over centre, 29·90; to southward, 30·10.

Queensland.—Fine, except on Cape York Peninsula, where it is cloudy, with slight thunderstorm yesterday. Rainfall from 0·02in. to 0·22in. Winds are generally S.E., and fresh to rather strong; sea smooth. Extremes of barometers and temperature: Brisbane, 30·05; Normanton, 29·86 and 88°; and Cape Moreton, 68°.

New South Wales.—Fine west of the range generally, with very light winds and calms; cloudy and gloomy in east, with fresh to strong E. to S.E. winds; showery along the coast. During the past 48 hours rain has fallen generally in the eastern division, heaviest in central coast district; the sea is moderate to heavy. Manning Heads reports very heavy sea. Extremes of barometers and temperature: Hay, 30·39; Clarence Heads, 30·10; Bourke, 70°; and Cooma, 47°. (For further particulars see map.)

3 P.M. OBSERVATIONS.

New South Wales.—Menindie, calm, fine and warm, temperature 75°; Wentworth, S., 14, fine and warm, temperature 68°; Deniliquin, calm, fine and clear, temperature 74°; Eden, E., 14, fine, light east sea, temperature 62°; Moruya, E.S.E., 14, fine but cloudy, moderate sea, temperature 62°; Cape St. George, S., 42, cloudy, with light showers, moderate sea, temperature 58°; Sydney, S.E., 11, cloudy but clearing, sea moderating, temperature 61°; Newcastle, S.E., 28, cloudy, smooth sea, temperature 63°; Port Macquarie, S., 56, cloudy and unsettled, heavy sea, temperature 69°; Clarence River, S., 42, fine, heavy sea, temperature 73°; Walgett, S.E., 14, fine, temperature 76°; Dubbo, S., 14, fine, temperature 67°; Goulburn, S.E., 14, fine, temperature 60°; Euston, S., 14, fine, clear, and warm.

South Australia.—Adelaide, S.W., 13, fine, temperature 75°.

Victoria.—Portland, E.S.E., 18, fine, smooth sea, temperature 59°; Cape Otway, S E., 18, fine, smooth sea, temperature 62°; Melbourne, S.W., 13, fine, temperature 61°; Cape Schanck, E.S.E., 18, fine, slight sea, temperature 59°; Wilson's Promontory, E., 14, fine but cloudy, slight sea, temperature 63°; Lakes Entrance, E., 18, fine but cloudy, temperature 63°; Omeo, S.E., 18, fine, temperature 66°.

Queensland.—Townsville, E., 34, overcast, heavy storm approaching from S., rough sea, temperature 78°; Mackay, E., 13, fine and hot; Rockhampton, E., 18, fine and clear, temperature 82°; Cape Moreton, S.S.E., 34, hazy, rough sea, temperature 67°; Brisbane, S.E., 23, cloudy, temperature 75°; Hughenden, S.W., 34, fine and very hot; Boulia, S.S.W., 28, fine but cloudy; Blackall, S.E., 13, fine, clear, and hot; Thargomindah, E., fine; Roma, S., 8, fine and clear, temperature 84°.

HEIGHT OF RIVERS ABOVE SUMMER LEVEL.

Macintyre: At Yetman, low; at Mungindi, low. Barwon: At Mogil Mogil, low; at Walgett, low. Namoi: At Walgett, low. Culgoa: At Goodooga, low. Darling: At Brewarrina, falling, 2ft.; at Bourke, falling, 4ft. 6in.; at Louth, falling, 4ft. 10in.; at Tilpa, falling, 7ft. 8in.; at Wilcannia, stationary, 10ft.; at Pooncarie, 22ft. 3in.; at Wentworth, 21ft. 5in. Murrumbidgee: At Wagga, 13ft.; at Hay, rising, 14ft. 9in.; at Balranald, 16ft. 2in. Murray: At Albury, 12ft. 6in.; at Euston, 22ft. 2in.

ASTRONOMICAL MEMORANDA FOR NOVEMBER 15.

Sun rises at 4.50, sets at 6.40; Moon, 5.1 a.m., 6.9 p.m.; Mercury, 5.14 a.m., 7.18 p.m.; Venus, 2.43 a.m., 2.58 p.m.; Mars, 1.58 a.m., 1.29 p.m.; Jupiter, 4.38 a.m., 6.10 p.m.; Saturn, 11·49 p.m., 10.7 a.m. Full moon, November 1; new moon, November 15.

High water at Fort Denison; 7.54 a.m., 8.18 p.m.

H. A. LENEHAN,
Acting Government Astronomer.

Stations.	W.T.	M'x	M'n	R'n
Albury ..	b	77	51	0
Armidale	b	67	44	0
Balranald	b	87	50	0
Bathurst	b	72	44	0
Bendem'r	c	72	41	0
Bodalla ..	b	66	44	0
Bourke ..	b	87	57	0
Bungarra	b	64	56	0
C'md'n H.	c	70	57	0
C. St. Geo.	b	66	50	0·05
Carcoar ..	b	65	38	0
Casino ..	b	78	47	0
Cassilis ..	c	67	54	0
Clarence .	c	76	61	0
C'nd'b'lin	b	81	41	0
Cooma ..	c	72	44	0
Coonab'n.	b	73	42	0
Cowra ..	b	83	40	0
Cudg'llico	b	83	56	0
Deniliq'n.	b	84	46	0
Dubbo ..	b	78	49	0
Eden	b	67	48	-
Euston ..	b	90	45	0
Forbes ..	b	—	43	0
G'bo Isl'nd	b	69	52	0
Glen Inn's	b	84	43	0
Goulburn	b	69	44	0·05
Grafton ..	b	72	53	0
Gulgong .	b	70	38	0
Gunned'h	b	76	52	0
Hay	b	84	50	0
Inverell ..	b	76	44	0
Kiandra ..	g	70	50	0
Lismore .	c	79	56	0
Maitland .	g	69	54	0
M'n'ng H.	b	60	51	0·24
Marsdens.	b	76	56	0
Menindie.	b	82	60	0
Molong ..	b	68	48	0
M'r'ng'r'll	b	74	52	0
Moree ..	b	87	55	0
Moruya ..	b	68	50	0
Moss Vale	b	59	43	0
Mt. Hope	b	88	57	0
M. Vict'ria	b	64	39	0
Mudgee ..	b	76	39	0
M'rr'mb'h	b	74	49	0
M'rr'r'ndi	b	65	51	0
Mus'lbr'k	b	76	42	0
Narrabri	g	77	52	0
Newcastle	b	68	55	0
Orange ..	b	66	47	0
Picton ..	b	66	50	0
P. M'q'rie	g	69	54	0·17
P. St'ph'n	u	71	50	0
Q'nbeyan	c	84	45	0
Quirindi	b	81	52	0
Singleton	b	70	54	0
SYDNEY ..	b	65	54	0
Taralga ..	b	72	45	0
Taree	—	—	—	-
T'nt'rfield	b	74	46	0
Wagga ..	b	86	44	0
Walcha ..	c	62	34	0
Walgett	b	80	53	0
Warialda	b	81	47	0
Warrah ..	b	72	51	0
W'ntw'rth	b	85	56	0
W'll'ng'ng	b	68	44	0
Young ..	b	80	46	0

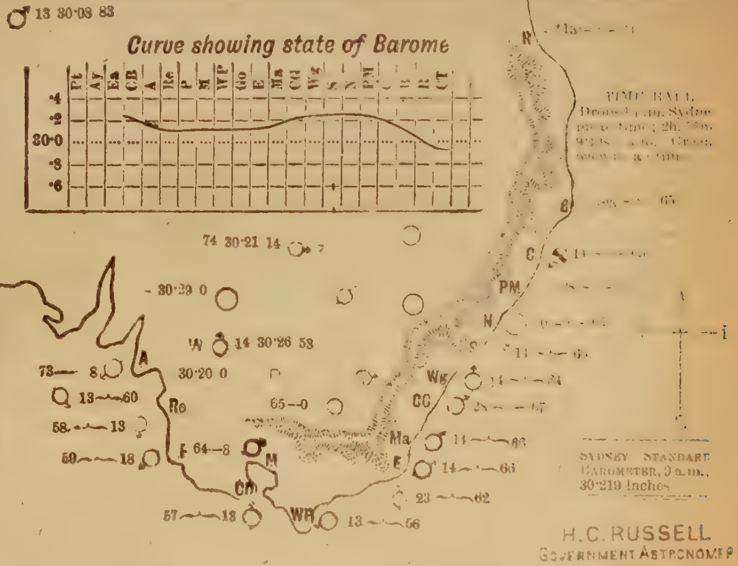
SYDNEY OBSERVATORY.

LATITUDE 33° 51' 41" S. LONGITUDE 10h. 4m. 50·81s. E.
MAGNETIC VARIATION, 9° 35' 37" E.

Average Annual Rainfall for 28 years .... 49·489
Average for 29 years from Jan. 1 to Oct. 31 .... 44·275
Total Rainfall from Jan. 1, to Nov. 15 1887 ...... 53·834

Barometers corrected to 32° Fah. and Mean Sea Level

If it is CALM, the symbol used without the arrow.
Smooth sea.
Heavy sea.



H. C. RUSSELL
GOVERNMENT ASTRONOMER

NOTES EXPLANATORY OF MAP.

In the list of stations the column headed W.T. gives the state of the weather at 9 a.m., b, standing for blue sky; c. detached clouds; d, drizzling rain; f, fog; g, gloomy; h, hazy; m, misty; n, frosty; o, overcast; p, passing showers; r, rain; s, snow; t, thunder; u, threatening. The next column, M'x gives the maximum temperature for previous 24 hours; M'n the corresponding minimum temperature; r'n, the rain for the previous 24 hours. The symbols used in the map are explained on the margin. At each coast station the wind symbol is placed like a vane pointing to the direction from which the wind is coming. A clear circle with it means fine weather; a circle with bar, cloudy weather; and a black spot, raining. Next to this symbol are placed figures denoting the number of miles the wind is moving per hour; next, a symbol showing the state of the sea; and, lastly, figures denoting the shade temperature at 9 a.m. The barometer curve shows the state of barometers round the coast from Perth to Cooktown:—Pt, Perth; Ay, Albany; Ea, Eucla; CB, Cape Borda; A, Adelaide; Re, Robe; P, Portland; M, Melbourne; W P, Wilson's Promontory; Go, Gabo; E, Eden; Ma, Moruya; C G, Jervis Bay; Wg, Wollongong; S, Sydney; N, Newcastle; P M, Port Macquarie; C, Clarence River; B, Brisbane; R, Rockhampton; Ct, Cooktown. Inland the state of barometer is given in figures at Albury, Deniliquin, Wentworth, Menindie, Bourke, and Alice Springs. The barometer curve enables one at a glance to trace the depressions, beginning with Western Australia, and passing along eastwards; northerly winds preceding them, and southerly following.

The rainfall on Sundays or holidays, when this map is not published, is in all cases included in the quantities shown by the next following map.

9 A.M. OBSERVATIONS.

South Australia.—Generally fine and warm, with light S.W. to S.E. winds and calms, and smooth sea. Thunderstorms during the night between Tennant's Creek and Port Darwin. Rainfall: Yam Creek, 0·29 inch. Extremes of barometers and temperature: Cape Borda, 30·20; Port Darwin, 29·87 and 84·; Cape Northumberland, 59·.

Victoria.—Generally fine, with heavy dews in early morning; light variable winds and calms; smooth sea. Extremes of barometers and temperature: Cape Schank, 30·18 and 58·; Ballarat, 30·08 and 70·.

Tasmania.—Generally fine, but more or less cloudy; light to fresh N. to westerly winds, smooth sea. Extremes of barometers and temperature: Circular Heads, 30·17 and 55·; Hobart, 29·94 and 62·.

New Zealand.—Gloomy, with light north wind, in extreme south; fine, with fresh to strong S.E. to S.W. winds, in north. Barometers: In south, 30·00; to northward, 29·80.

Queensland.—Generally more or less cloudy and gloomy, but in south-west parts fine; light N.E. to E. winds inland; strong south-easterly on the coast. Thunderstorms yesterday on the tropical coast. Extremes of barometers and temperature: Brisbane, 30·20; Thursday Island, 29·90; Normanton, 88·; and Cape Moreton, 65·.

New South Wales.—Generally fine, with scattered clouds in E. parts; light variable, chiefly easterly winds or calms; moderate sea. During the last 24 hours light rains fell at a few scattered places on the coast. Extremes of barometers and temperature: Menindie, 30·29; Gabo, 30·10; Hay, 76·; and Armidale, 53·. (For further particulars see map.)

3 P.M. OBSERVATIONS.

South Australia.—Adelaide, S.W., 13, fine, temperature 72·.

Victoria.—Portland, W.S.W., 28, fine but cloudy, smooth sea, temperature 64·; Cape Otway, N.W., 28, cloudy, smooth sea, temperature 60·; Melbourne, S., 13, fine but cloudy, temperature 63·; Cape Schanck, calm, fine but cloudy, sea smooth, temperature 61·; Wilson's Promontory, S.W., 18, fine, smooth sea, temperature 59·; Lakes Entrance, S.E., 13, fine but cloudy, temperature 68·; Omeo, N., 18, fine, temperature 75·.

New South Wales.—Menindie, calm, fine and warm, temperature 80·; Wentworth, S.W., 14, fine and warm, temperature 75·; Eden, N.E., 42, fine, light east sea, temperature 67·; Moruya, N.E., 42, fine, moderate sea, temperature 66·; Cape St. George, N.E., 42, fine but cloudy, rough sea, temperature 62·; Sydney, E.N.E., 22, fine, pleasant, moderate sea, temperature 66·; Newcastle, E., 28, fine, smooth sea, temperature 66·; Port Macquarie, S.E., 14, fine, moderate sea, temperature 74·; Clarence River, S.E., 14, fine, moderate sea, temperature 73·; Walgett, E.S.E., 14, fine, temperature 77·; Dubbo, S.E., 14, fine, temperature 70·; Goulburn, W., 14, fine, temperature 64·.

Queensland.—Mackay, S.E., 14, fine but cloudy; Rockhampton, E., 23, fine but cloudy, temperature 77; Brisbane, E., 23, fine but cloudy, temperature 72·; Boulia, S.E., 18, fine with scattered clouds; Blackall, N., 13, raining, thunderstorm passing from N.W.; Thargomindah, E., fine; Roma, calm, fine, scattered clouds.

HEIGHT OF RIVERS ABOVE SUMMER LEVEL.

Macintyre: At Yetman, low; at Mungindi, low. Barwon: At Mogil Mogil, low; at Walgett, low. Namoi: At Walgett, low. Culgoa: At Goodooga, low. Darling: At Brewarrina, falling, 1ft. 10in.; at Bourke, falling, 4ft. 2in.; at Louth, falling, 4ft. 9in.; at Tilpa, falling, 7ft. 7in.; at Wilcannia, falling, 9ft. 6in.; at Menindie, 23ft. 8in.; at Pooncarie, 22ft. 3in.; at Wentworth, 21ft. 5in. Murrumbidgee: At Wagga, 12ft.; at Hay, rising, 15ft. 6in.; at Balranald, 16ft. 2in. Murray: At Albury, 10ft. 11in.; at Euston, 22ft. 2in.

ASTRONOMICAL MEMORANDA FOR NOVEMBER 16.

Sun rises at 4.49, sets at 6.41; Moon, 5.49 a.m., 7.17 p.m.; Mercury, 5.5 a.m., 7.5 p.m.; Venus, 2.42 a.m., 2.58 p.m.; Mars, 1.55 a.m., 1.28 p.m.; Jupiter, 4.35 a.m., 6.7 p.m.; Saturn, 11.45 p.m., 10.3 a.m. Full moon, November 1; new moon, November 15.

High water at Fort Denison; 8.42 a.m., 9.5 p.m.

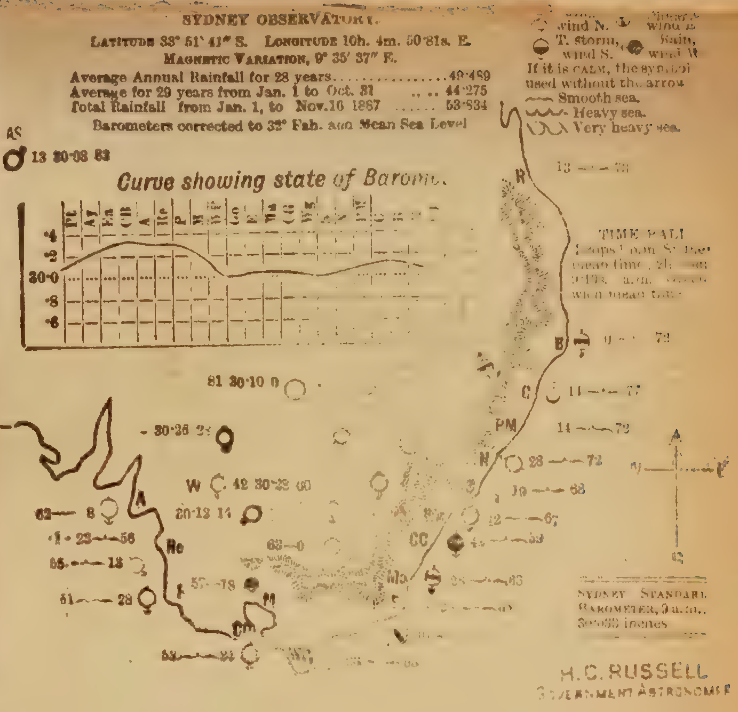
H. A. LENEHAN,
Acting Government Astronomer.

SYDNEY OBSERVATORY.

LATITUDE 33° 51' 41" S. LONGITUDE 10h. 4m. 50·81s. E.
MAGNETIC VARIATION, 9° 35' 37" E.

Average Annual Rainfall for 28 years.................49·489
Average for 29 years from Jan. 1 to Oct. 31 .... 44·275
Total Rainfall from Jan. 1, to Nov. 16 1867 ..... 53·534

Barometers corrected to 32° Fah. and Mean Sea Level



Stations.	W.T.	Max.	Min.	Rain.
Albury ..	b	82	53	0
Armidale	b	70	47	0
Balranald	b	98	56	0
Bathurst	b	76	44	0
Bendem'r	g	71	42	0
Bodalla ..	g	69	53	0
Bourke ..	b	89	68	0
Bundarra	g	72	54	0
C'nd'n H.	b	71	59	0
C. St. Geo.	r	67	56	0
Carcoar ..	b	65	36	0
Casino ..	b	80	53	0
Cassilis ..	b	71	50	0
Clarence .	b	76	61	0
C'nd'b'lin	b	91	46	0
Cooma ..	c	82	47	0
Coonab'n..	b	79	40	0
Cowra ..	b	88	51	0
Cudg'lli..o	b	89	60	0
Deniliq'n..	b	91	49	0
Dubbo ..	b	82	46	-
Eden	u	60	56	0
Euston ..	b	97	54	0
Forbes ..	b	—	49	0
G'be isl'nd	o	67	55	0
Glen Inn's	b	79	51	0·05
EUCLA				
Goulburn	b	76	43	0
Grafton ..	b	79	59	0
Gulgong .	b	73	42	0
Gunned'h	b	82	52	0
Hay	b	88	55	0
Inverell..	g	78	57	0·11
Kiandra..	c	71	27	0
Lismore .	b	84	57	0
Maitland.	b	75	51	0
M'n'ng H.	-	—	—	-
Marsdens.	b	83	47	0
Menindie.	b	88	61	0
Molong ..	b	76	43	0
M'r'ng'r'll	b	81	51	0
Moree ..	b	83	56	0
Moruya..	b	69	57	0
Moss Vale	b	71	51	0
Mt. Hope	b	91	61	0
M. Vict'ria	b	77	43	0
Mudgee..	b	79	43	0
Murrumb'h	b	77	49	0
M'r'r'ndi	b	70	52	0
Muslbr'k	b	86	47	0
Narrabri	b	84	50	0
Newcastle	b	72	58	0
Orange ..	b	68	46	0
Picton ..	b	71	46	0
P. M'q'rie	b	74	52	0
P. St'ph'n	b	76	49	0
Qu'beyan	b	85	45	0
Quirindi	b	83	51	0
Singleton	b	76	51	0
SYDNEY	b	68	55	0
Taralga ..	b	73	43	-
Taree	b	76	54	0
T'nt'rfield	b	79	52	0
Wagga ..	b	80	45	0
Walcha ..	b	67	40	0
Walgett..	b	86	53	0
Warialda	o	81	49	0·01
Warrah..	b	78	53	0
W'ntw'rth	b	91	57	0
W'll'ng'ng	b	71	52	0
Yass ..	b	83	47	0

NOTES EXPLANATORY OF MAP.

In the list of stations the column headed W.T. gives the state of the weather at 9 a.m., b, standing for blue sky; c, detached clouds; d, drizzling rain; f, fog; g, gloomy; h, hazy; m, misty; n, frosty; o, overcast; p, passing showers; r, rain; s, snow; t, thunder; u, threatening. The next column, M'x gives the maximum temperature for previous 24 hours; M'n the corresponding minimum temperature; r'n, the rain for the previous 24 hours. The symbols used in the map are explained on the margin. At each coast station the wind symbol is placed like a vane pointing to the direction from which the wind is coming. A clear circle with it means fine weather; a circle with bar, cloudy weather; and a black spot, raining. Next to this symbol are placed figures denoting the number of miles the wind is moving per hour; next, a symbol showing the state of the sea; and, lastly, figures denoting the shade temperature at 9 a.m. The barometer curve shows the state of barometers round the coast from Perth to Cooktown:—Pt, Perth; Ay, Albany; Ea, Eucla; CB, Cape Borda; A, Adelaide; Re, Robe; P, Portland; M, Melbourne; W P, Wilson's Promontory; Go, Gabo; E, Eden; Ma, Moruya; C G, Crowdy Bay; Wg, Wollongong; S, Sydney; N, Newcastle; P M, Port Macquarie; C R, Clarence River; B, Brisbane; R, Rockhampton; Ct, Cooktown. Inland the state of barometers is given in figures at Albury, Deniliquin, Wentworth, Menindie, Bourke, and Alice Springs. The barometer curve enables one at a glance to trace the depressions, beginning with Western Australia, and passing along eastwards; northerly winds preceding them, and southerly following.

The rainfall on Sundays or holidays, when this map is not published, is in all cases included in the quantities shown by the next following map.

9 A.M. OBSERVATIONS.

Western Australia.—Fine on the west coast; cloudy and showery in south parts; light easterly winds and calms; smooth to moderate sea generally, but rough off Esperance Bay. Extremes of barometers and temperature: Eucla, 30·30; Ashburton, 29·81; Cossack, 83°; and Albany, 62°.

South Australia.—Generally cloudy and gloomy south of Port Augusta; fresh S.E. to E. winds; moderate sea. Squally on the coast; fine in Central Australia; cloudy in northern territory. Rainfall: Port Darwin, 0·80 inch. Extremes of barometers and temperature: Cape Borda, 30·35; Port Darwin, 29·92; Daly Waters, 79°; and Cape Northumberland, 53°.

Victoria.—Generally fine, but unsettled; passing showers in parts; squally on the coast; fresh S.W. to S.E. winds; moderate sea. Rainfall: At a few scattered places, from 0·01 to 0·03 inch. Extremes of barometers and temperature: Cape Otway, 30·28; Echuca, 30·13; Horsham, 65°; and Omeo, 44°.

Tasmania.—Fine, but unsettled in north; showery in S.E. parts; fresh southerly winds; moderate to rough sea. Extremes of barometers and temperature: Circular Heads, 30·17; Falmouth, 30·05; Southport, 49°; and Low Heads, 58°.

New Zealand.—Fine generally, showery in extreme north, N.W. to N.E. winds; S.E. winds in Cook Strait; 1·16in. rain fallen at Wellington. Barometers: In extreme north and south, 29·80; over the centre, 29·70.

Queensland.—Generally more or less cloudy and gloomy, showery in Leichhardt districts, fresh N.E. to S.E. winds; heavy thunderstorms, with rain, occurred in North Kennedy district; from 1·50 to 2·55 inches were recorded. Extremes of barometers and temperature: Brisbane, 30·10 and 72°; Thursday Island, 29·91 and 86°.

New South Wales.—Generally fine and clear, but cloudy and unsettled on the high table-lands in extreme north, but gloomy in the Manaro pastoral district. Cape St. George reports light rain. Winds are generally fresh; north to westerly in north parts, southerly in south; the sea is smooth to moderate. Light rains have fallen in the north parts of the Gwydir and New England pastoral districts. Extremes of barometers and temperature: Wentworth, 30·28; Albany, 29·95; Clarence, 77°; and Cape St. George, 59°. (For further particulars see map.)

3 P.M. OBSERVATIONS.

Victoria.—Portland, S.S.E., 34, fine but cloudy, smooth sea, temperature 57°; Cape Otway, S., 28, fine, moderate sea, temperature 55°; Melbourne, S.S.W.., 18, fine, temperature 57°; Cape Schanck, S.E., 28, fine but cloudy, moderate sea, temperature 59°; Wilson's Promontory, S.S.W., 13, fine, moderate sea, temperature 55°; Lakes Entrance, S.W., 28, cloudy, temperature 62°.

South Australia.—Adelaide, S.S.E., 13, fine, temperature 64°.

New South Wales.—Menindie, S S.E., 28, fine, clear, and cool, temperature 74°; Wentworth, S., 14, fine, temperature 65°; Deniliquin, S.E., 14, fine and cool, temperature 72°; Eden, S.W., 42, overcast, like rain, light east sea, temperature 57°; Moruya, S., 28, overcast and gloomy, moderate sea, temperature 52°; Cape St. George, S.S.E., 56, cloudy and dull, moderate sea, temperature 61°; Sydney, S.E., 28, overcast and gloomy, moderate sea, temperature 64°; Newcastle, S., 28, fine, smooth sea, temperature 67°; Port Macquarie, N.E., 28, fine, smooth sea, temperature 74°; Dubbo, S.W., 14, fine, but cloudy, temperature 75°; Goulburn, E.S.E., 14, cloudy, like rain.

Queensland.—Townsville, N.E., 8, cloudy, smooth sea, temperature 80°; Mackay, S.E., 18, cloudy, like rain; Rockhampton, E., 13, cloudy and showery, temperature 72; Brisbane, E., 13, fine, temperature 73°; Hughenden, E., 23, very close, and like rain; Blackall, E., 8, cloudy and close; Thargomindah, S.E., fine; Roma, E., 8, fine, temperature 86°.

HEIGHT OF RIVERS ABOVE SUMMER LEVEL.

Macintyre: At Yetman, low; at Mungindi, low. Barwon: At Mogil Mogil, low; at Walgett, low. Namoi: At Walgett, low. Culgoa: At Goodooga, low. Darling: At Brewarrina, low; at Bourke, falling, 4ft.; at Louth, falling, 4ft. 8in.; at Tilpa, falling, 6ft.; at Wilcannia, falling, 9ft. 6in.; at Menindie, falling, 23ft. 4in.; at Pooncarie, 22ft. 3in.; at Wentworth, 21ft. 4in. Murrumbidgee: At Gundagai, 9ft. 10in.; at Wagga, 11ft.; at Hay, rising, 16ft.; at Balranald, 16ft. 4in. Murray: At Albury, 11ft. 5in.; at Euston, 22ft. 2in.

ASTRONOMICAL MEMORANDA FOR NOVEMBER 17.

Sun rises at 4.49, sets at 6.42; Moon, 6.40 a.m., 8.24 p.m. Mercury, 4.56 a.m., 6.51 p.m.; Venus, 2.41 a.m., 2.59 p.m.; Mars 1.53 a.m., 1.26 p.m.; Jupiter, 4.31 a.m., 6.4 p.m.; Saturn, 11.41 p.m., 9.59 a.m. Full moon, November 1; new moon, November 15.

High water at Fort Denison; 9.27 a.m., 9.49 p.m.

H. A. LENEHAN,
Acting Government Astronomer.

Albury ..	b	71	49	0
Armidale	b	73	51	0
Balranald	b	87	46	0
Bathurst	c	78	49	0·02
Bendem'r	g	76	49	0
Bodalla ..	o	64	49	0·27
Bourke ..	b	99	61	0
Bungarra	b	72	53	0
C'md'n H.	r	77	61	1·60
C.St. Geo.	b	67	52	0·20
Carcoar ..	b	70	38	0·03
Casino ..	c	90	53	0
Cassilis ..	u	76	56	0
Clarence .	b	80	61	0
C'nd'b'lin	b	94	44	0
Cooma ..	c	56	45	0·08
Coonab'n.	h	83	51	0
Cowra ..	b	81	54	0
Cudg'llico	b	92	51	0
Deniliq'n.	b	74	41	0
Dubbo ..	b	86	55	0
Eden	b	62	47	0·03
Euston ..	b	77	42	0
Forbes ..	g	—	48	0·07
G'bo Isl'nd	b	57	50	0·01
Glen Inn's	b	70	48	0

18—62 UCLA

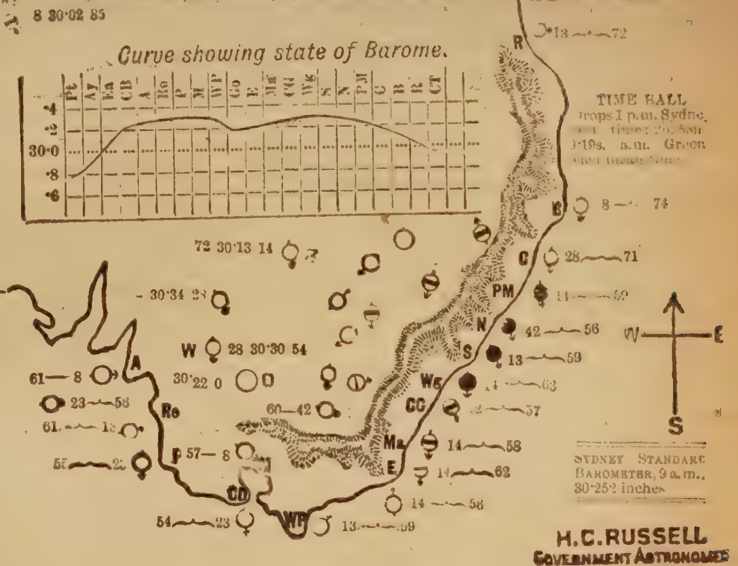
Goulburn	g	81	42	0·13
Grafton ..	b	89	64	0
Gulgong .	c	80	41	0
Gunned'h	b	84	57	0
Hay	b	74	57	0
Inverell ..	b	76	50	—
Kiandra ..	u	72	25	0
Lismore .	c	87	56	0
Maitland .	r	84	58	0·17
M'n'ng H.	c	76	58	1·07
Marsdens.	b	86	57	0
Menindie.	b	78	52	0
Molong ..	b	79	48	0
M'r'ng'r'll	b	86	50	0
Moree ..	b	84	57	0
Moruya ..	b	68	49	0·24
Moss Vale	r	66	46	0·15

LATITUDE 33° 51' 41" S. LONGITUDE 10h. 4m. 50·81s. E.
MAGNETIC VARIATION, 9° 35' 37" E.

Average Annual Rainfall for 28 years .... 49·489
Average for 29 years from Jan. 1 to Oct. 31 .... 44·275
Total Rainfall from Jan. 1, to Nov. 17 1887 ...... 54·155

Barometers corrected to 32° Fah. and Mean Sea Level

T. storm, wind S. — wind
If it is CALM, the symbol used without the arrow
Smooth sea.
Heavy sea.
Very heavy sea



H. C. RUSSELL
GOVERNMENT ASTRONOMER

Mt. Hope	b	87	52	0
M. Vict'ria	r	74	41	0·47
Mudgee ..	u	86	48	0
M'rr'mb'h	c	80	51	0
M'rr'r'ndi	u	75	56	0·14
Mus'lbr'k	r	93	52	0·05
Narrabri	b	87	59	0
Newcastle	r	79	54	0·40
Orange ..	g	74	47	0·07
Picton ..	u	74	51	0·21
P. M'q'rie	r	77	59	0·55
P. St'ph'n	r	62	54	0·41
Q'nbeyan	c	71	34	0·18
Quirindi	b	84	52	0
Singleton	r	83	59	0·40
SYDNEY ..	r	69	56	0·32
Taralga ..	r	62	38	0·30
Taree	r	85	60	0·09
T'nt'rfield	b	77	55	0
Wagga ..	b	85	44	0
Walcha ..	o	70	45	0
Walgett	b	87	62	0
Warialda	b	82	49	0
Warrah ..	g	82	55	0·13
W'ntw'rth	b	73	48	0
W'll'ng'ng	r	72	47	0·21
Young ..	g	88	46	0

NOTES EXPLANATORY OF MAP.

In the list of stations the column headed W.T. gives the state of the weather at 9 a.m., b, standing for blue sky; c, detached clouds; d, drizzling rain; f, fog; g, gloomy; h, hazy; m, misty; n, frosty; o, overcast; p, passing showers; r, rain; s, snow; t, thunder; u, threatening. The next column, M'x gives the maximum temperature for previous 24 hours; M'n the corresponding minimum temperature; r'n, the rain for the previous 24 hours. The symbols used in the map are explained on the margin. At each coast station the wind symbol is placed like a vane pointing to the direction from which the wind is coming. A clear circle with it means fine weather; a circle with bar, cloudy weather; and a black spot, raining. Next to this symbol are placed figures denoting the number of miles the wind is moving per hour; next, a symbol showing the state of the sea; and, lastly, figures denoting the shade temperature at 9 a.m. The barometer curve shows the state of barometers round the coast from Perth to Cooktown:—Pt, Perth; Ay, Albany; Ea, Eucla; CB, Cape Borda; A, Adelaide; Re, Robe; P, Portland; M, Melbourne; W P, Wilson's Promontory; Go, Gabo; E, Eden; Ma, Moruya; C G, Jervis Bay; Wg, Wollongong; S, Sydney; N, Newcastle; P M, Port Macquarie; C, Clarence River; B, Brisbane; R, Rockhampton; Ct, Cooktown. Inland the state of barometer is given in figures at Albury, Deniliquin, Wentworth, Menindie, Bourke, and Alice Springs. The barometer curve enables one at a glance to trace the depressions, beginning with Western Australia, and passing along eastwards; northerly winds preceding them, and southerly following.

The rainfall on Sundays or holidays, when this map is not published, is in all cases included in the quantities shown by the next following map.

9 A.M. OBSERVATIONS.

Western Australia.—Generally fine, but unsettled; light easterly winds, smooth to moderate sea. Extremes of barometers and temperature: Esperance Bay, 30·04; Geraldton, 29·69; Cossack, 84°; and Albany, 68°.

South Australia.—Generally fine and cold, light to fresh S.E. to N.E. winds, smooth to moderate sea; more or less cloudy in the Northern Territory, where light rains have fallen. Port Darwin, 0·35 inch; Daly Waters, 0·55 inch. Extremes of barometers and temperature: Robe, 30·28; Port Darwin, 29·85; Alice Springs, 85°; and Cape Northumberland, 54°.

Victoria.—Generally fine inland, scattered clouds on the coast, in parts overcast, light S. to S.E. winds, smooth sea. Extremes of barometers and temperature: Cape Otway, 30·33; Omeo, 30·17; Horsham, 63°; and Hamilton, 55°.

Tasmania.—Generally fine, but more or less cloudy; light to fresh N. to W. winds; smooth to moderate sea. Extremes of barometers and temperature: Low Heads, 30·28 and 58°; Southport, 30·23 and 54°.

New Zealand.—Generally fine, N.W. to S.W. winds; strong S.W. winds on the N.W. coast. Barometers: In north, 29·80; over centre, 29·60; in south, 29·70.

Queensland.—Fine in south; cloudy in north; showery in the North Kennedy district; light S.E. to N.E. winds; smooth sea. Rain has fallen in the North Kennedy district, the Darling Downs, and around Wide Bay. Extremes of barometers and temperature: Brisbane, 30·08; Thursday Island, 29·90 and 85°; Rockhampton, 72°.

New South Wales.—Showery on the coast between Macleay and Shoalhaven rivers; cloudy and gloomy in the adjoining districts; fine, but more or less unsettled and cold over the remainder of the colony. Winds are generally fresh to strong south to S.E.; the sea is moderate. During the previous 24 hours light rains fell in coast and mountain districts from the Macleay River southward, and on the Upper Lachlan. The heaviest falls occurred in the Manning River districts. Extremes of barometers and temperature: Wentworth, 30·35; Clarence, 30·12; Bourke, 72°; and Kiandra, 37°. (For further particulars see map.)

3 P.M. OBSERVATIONS.

South Australia.—Adelaide, W.S.W., 18, fine, temperature 67°.

Victoria.—Portland, S.E., 34, fine, smooth sea, temperature 67°; Cape Otway, S.S.E., 18, fine, smooth sea, temperature 59°; Melbourne, S.S.W., 18, fine, temperature 62°; Cape Schanck, S.E., 23, fine but cloudy, temperature 59°; Wilson's Promontory, N.E., 13, fine, smooth sea, temperature 58°; Lakes Entrance, E., 23, squally, temperature 62°; Omeo, S., 13, cloudy, temperature 61°.

New South Wales.—Menindie, S.E., 14, fine, clear, and cool, temperature 69°; Wentworth, S., 14, fine, temperature 62°; Deniliquin, calm, fine, but cloudy, temperature 72°; Eden, N.E., 14, fine, light east sea, temperature 61°; Moruya, S.S.E., 14, overcast and dull, smooth sea, temperature 59°; Cape St. George, S.E., 42, fine, but cloudy, moderate sea, temperature 59°; Sydney, S.E., 8, overcast and gloomy, moderate sea, temperature 60°; Newcastle, S.E., 28, cloudy, moderate sea, temperature 62°; Port Macquarie, S., 42, overcast and raining, moderate sea, temperature 66°; Clarence River, S., 42, fine, moderate sea, temperature 73°; Walgett, N.W., 14, cloudy, temperature 89°; Dubbo, E., 14, fine, temperature 72°; Goulburn, E.S.E., 14, cloudy and dull, temperature 58°; Euston, S., 14, fine and clear.

Queensland.—Rockhampton, E., 13, fine, temperature 66°; Brisbane, N.E., 23, gloomy, temperature 75°; Hughenden, N.E., 8, cloudy and stormy looking; Boulia, S., cloudy and stormy; Blackall, E., cloudy; Thargomindah, S., cloudy: Roma, calm, threatening, temperature 85°.

HEIGHT OF RIVERS ABOVE SUMMER LEVEL.

Macintyre: At Yetman, low; at Mungindi, low. Barwon: At Mogil Mogil, low; at Walgett, low. Namoi: At Walgett, low. Culgoa: At Goodooga, low. Darling: At Brewarrina, low; at Bourke, falling, 3ft. 9in.; at Louth, falling, 4ft. 7in.; at Tilpa, stationary, 7ft. 6in.; at Wilcannia, stationary, 9ft. 6in.; at Menindie, 23ft.; at Pooncarie, 23ft. 3in.; at Wentworth, 21ft. 3in. Murrumbidgee: At Gundagai, falling, 9ft.; at Wagga, 10ft. 9in.; at Hay, rising, 16ft. 6in.; at Balranald, falling, 16ft. 4in. Murray: At Albury, 10ft. 10in.; at Euston, 22ft. 2in.

ASTRONOMICAL MEMORANDA FOR NOVEMBER 18.

Sun rises at 4.48, sets at 6.43; Moon, 7.33 a.m., 9.27 p.m.; Mercury, 4.48 a.m., 6.38 p.m.; Venus, 2.40 a.m., 2.59 p.m.; Mars, 1.50 a.m., 1.25 p.m.; Jupiter, 4.28 a.m., 6.2 p.m.; Saturn, 11.37 p.m., 9.55 a.m. Full moon, November 1; new moon, November 15.

High water at Fort Denison; 10.16 a.m., 10.23 p.m.

H. A. LENEHAN,
Acting Government Astronomer.

Albury	c	77	52	0
Armidale	b	69	49	0·12
Balranald	b	91	51	0
Bathurst	b	63	41	0
Bendem'r	u	74	53	0·26
Bodalla	c	67	44	0
Bourke	c	94	58	0
Bungarra	g	74	51	0·10
C'md'n H.	c	66	59	0·17
C. St. Geo.	b	63	51	0
Carcoar	b	63	41	0
Casino	c	82	59	0·10
Cassilis	o	62	54	0
Clarence	r	77	63	0·31
C'nd'b'lin	c	86	41	0
Cooma	c	64	48	0
Coonab'n.	h	80	46	0
Cowra	b	80	50	0
Cudg'llico	b	82	56	0
Deniliq'n.	b	82	49	0
Dubbo	b	78	51	0
Eden	b	67	49	0
Euston	b	82	51	0
Forbes	b	—	47	0
G'bo Isl'nd	b	67	53	0
Glen Inn's	g	68	56	0·55
Goulburn	b	59	43	0
Grafton	c	80	61	0·40
Gulgong	b	67	44	0
Gunned'h	b	83	52	0
Hay	b	82	56	0
Inverell	c	81	55	0·11
Kiandra	b	64	24	0
Lismore	r	84	63	0·08
Maitland	u	71	57	0·13
M'n'ng H.	c	76	56	0·11
Marsdens.	b	78	56	0
Menindie.	b	75	58	0
Molong	b	72	44	0
M'r'ng'r'll	b	73	39	0
Moree	b	89	59	0
Moruya	g	68	48	0
Moss Vale	u	52	47	0
Mt. Hope	g	88	54	0
M. V'ct'ria	g	55	40	0·13
Mudgee	c	68	45	0
M'rr'mb'h	b	67	46	0
M'rr'r'ndi	b	61	50	0·08
Mus'lbr'k	b	67	49	0
Narrabri	h	84	56	0
Newcastle	g	65	56	0·01
Orange	b	65	46	0
Picton	u	59	51	0
P. M'q'rie	c	66	56	0·91
P. St'ph'n	c	67	53	0·07
Q'nbeyan	c	80	39	0
Quirindi	b	81	54	0
Singleton	g	83	53	0·10
Sydney	c	64	55	0
Taralga	g	63	39	0
Taree	c	66	49	0·13
T'nt'rfield	u	73	49	0
Wagga	b	76	45	0
Walcha	c	70	44	0·08
Walgett	g	93	60	0
Warialda	b	86	55	0·01
Warrah	b	70	51	0·04
W'ntw'rth	b	80	55	0
W'll'ng'ng	b	63	53	0
Young	b	72	43	0

SYDNEY OBSERVATORY.

LATITUDE 33° 51' 41" S. LONGITUDE 10h. 4m. 50·81s. E.

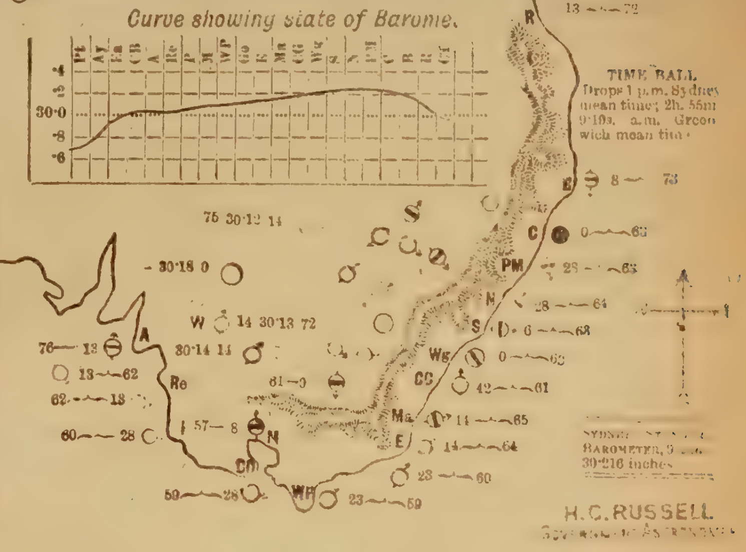
MAGNETIC VARIATION, 9° 35' 37" E.

Average Annual Rainfall for 28 years .... 49·489

Average for 29 years from Jan. 1 to Oct. 31 ...... 44·275

Total Rainfall from Jan. 1, to Nov. 18 1887 ...... 54·158

Barometers corrected to 32° Fah. and Mean Sea Level



wind N. T. storm, wind S. Rain wind

If it is CALM, the symbol is used without the arrow

Smooth sea.

Heavy sea.

Very heavy sea

TIME BALL.

Drops 1 p.m. Sydney mean time; 2h. 55m 9·10s. a.m. Greenwich mean time.

SYDNEY ... BAROMETER, 9 ... 30·216 inches

H. C. RUSSELL.

NOTES EXPLANATORY OF MAP.

In the list of stations the column headed W.T. gives the state of the weather at 9 a.m., b, standing for blue sky; c, detached clouds; d, drizzling rain; f, fog; g, gloomy; h, hazy; m, misty, n, frosty; o, overcast; p, passing showers, r, rain; s, snow; t, thunder; u, threatening. The next column, M'x gives the maximum temperature for previous 24 hours; M'n the corresponding minimum temperature; r'n, the rain for the previous 24 hours. The symbols used in the map are explained on the margin. At each coast station the wind symbol is placed like a vane pointing to the direction from which the wind is coming. A clear circle with it means fine weather; a circle with bar, cloudy weather; and a black spot, raining. Next to this symbol are placed figures denoting the number of miles the wind is moving per hour; next, a symbol showing the state of the sea; and, lastly, figures denoting the shade temperature at 9 a.m. The barometer curve shows the state of barometers round the coast from Perth to Cooktown: Pt Perth. Ay, Albany; Ea, Eucla; CB, Cape Borda; A, Adelaide; Re, Robe; P. Portland; M, Melbourne; W P, Wilson's Promontory; Go, Gabo; E, Eden, Ma, Moruya; CG, Jervis Bay; Wg, Wollongong; S, Sydney; N, Newcastle; PM, Port Macquarie; C, Clarence River; B, Brisbane; R, Rockhampton; Ct, Cooktown. Inland the state of barometer is given in figures at Albury, Deniliquin, Wentworth, Menindie, Bourke, and Alice Springs. The barometer curve enables one at a glance to trace the depressions, beginning with Western Australia, and passing along eastwards; northerly winds preceding them, and southerly following.

The rainfall on Sundays or holidays, when this map is not published, is in all cases included in the quantities shown by the next following map.

9 A.M. OBSERVATIONS.

Western Australia.—Generally cloudy, gloomy, and sultry; light to fresh winds, westerly in north, easterly in south, smooth to moderate sea, stormy from north, with rough sea at Geraldton. Extremes of barometers and temperature: Ashburton, 30·02; Geraldton, 29·67; Ashburton, 78°; and Albany, 63°.

South Australia.—Generally fine and warm, more or less cloudy at places, rising temperature, fresh N.E. to W. winds inland, S. to S.E. on the coast and in S.E. parts, smooth to moderate sea, cloudy in north parts of the Northern Territory. Extremes of barometers and temperature: Eucla, 30·03; Port Darwin, 29·88; Alice Springs, 89°; and Cape Northumberland, 57°.

Victoria.—Generally fine, with scattered clouds and haze, light to fresh N.E. to E. winds, smooth to moderate sea. Extremes of barometers and temperature: Wilson's Promontory, 30·13; Ballarat, 29·97; Horsham, 65°; Hamilton, 56°.

Tasmania.—Generally fine, but more or less cloudy; light N. to E. winds, smooth sea. Extremes of barometers and temperature: Low Heads, 30·22; Hobart, 30·15 and 61°; Southport, 58°.

New Zealand.—Strong S.W. wind and rough sea in extreme north; cloudy, with south wind, in Cook Strait; showery, with hailstorms and fresh S.W. wind, in extreme south. Barometers: In north, 29·80; to southward, 29·70.

Queensland.—Generally more or less cloudy and gloomy; light N. to N.E. winds inland; fresh S. to S.E. winds on the coast. Yesterday Bourke and Moreton districts experienced thunderstorms with rain. Extremes of barometers and temperature: Brisbane, 30·15 and 73°; Thursday Island, 29·93; and Cooktown, 84°.

New South Wales.—Generally fine and cool, with clouds at scattered places, and in east parts dull and unsettled; showery at Clarence and Richmond Heads. Winds are generally light to fresh E. to N.E.; the sea is smooth. During the previous 24 hours light rains fell in coast and mountain districts from Sydney, Camden, Picton, and Mount Victoria northwards. Extremes of barometers and temperature: Port Macquarie, 30·26; Gabo, 30·12; Walgett, 75°; and Cooma, 52°. (For further particulars see map.)

3 P.M. OBSERVATIONS.

South Australia.—Adelaide, S.W., 13, fine (solar halo before noon), temperature 72°.

Victoria.—Portland, S., 13, fine, but cloudy, smooth sea, temperature 62°; Cape Otway, S.E., 18, cloudy, smooth sea, temperature 63°; Melbourne, S., 13, cloudy, temperature 68°; Cape Schanck, E.S.E., 13, fine but cloudy, smooth sea, temperature 60°; Wilson's Promontory, N.E., 23, squally, smooth sea, temperature 58°; Lakes Entrance, E., 18, cloudy, temperature 68°; Omeo E., 13, cloudy, temperature 65°.

New South Wales.—Menindie, calm, fine and warm, temperature 77°; Wentworth, E., 14, fine, temperature 70°; Deniliquin, calm, fine, temperature 75°; Eden, N.E., 28, fine, light east sea, temperature 65°; Moruya, N.E., 28, fine, smooth sea, temperature 65°; Cape St. George, N., 42, fine, but cloudy, smooth sea, temperature 62°; Sydney, N.E., 15, fine, but cloudy and unsettled, smooth sea, temperature 64°; Newcastle, N.E., 28, dull, smooth sea, temperature 64°; Port Macquarie, E. S.E., 14, cloudy, smooth sea, temperature 69°; Clarence River, S.E., 14, showery, smooth sea, temperature 68°; Walgett, calm, sultry, temperature 90°; Dubbo, E., 14, fine, temperature 73°; Goulburn, E., 14, dull, temperature 61°.

Queensland.—Townsville, calm, cloudy, smooth sea, temperature 79°; Mackay, E., 18, cloudy; Rockhampton, S.E., 18, cloudy, temperature 76°; Cape Moreton, E.S.E., 13, cloudy, temperature 78°; Brisbane, E.S.E., 28, cloudy and squally, temperature 76°; Boulia, S., cloudy; Blackall, N.E., 34, threatening storm; Thargomindah, S.W., fine; Roma, S.W., 18, strong squalls, with dust, temperature 89°.

HEIGHT OF RIVERS ABOVE SUMMER LEVEL.

Macintyre: At Yetman, low; at Mungindi, low. Barwon: At Mogil Mogil, low; at Walgett, low. Namoi: At Walgett, low. Culgoa: At Goodooga, low. Darling: At Brewarrina, low; at Bourke, falling, 3ft. 6in.; at Louth, falling, 4ft. 6in.; at Tilpa, stationary, 7ft. 6in.; at Wilcannia, falling, 9ft. 4in.; at Menindie, 22ft. 9in.; at Pooncarie, 22ft. 3in.; at Wentworth, 21ft. 3in. Murrumbidgee: At Gundagai, falling, 8ft. 9in.; at Wagga, 10ft. 8in.; at Hay, rising, 16ft. 8in.; at Balranald, 16ft. Murray: At Albury, 10ft. 1in.; at Euston, 22ft. 2in.

ASTRONOMICAL MEMORANDA FOR NOVEMBER 19.

Sun rises at 4.48, sets at 6.44; Moon, 8.31 a.m., 10.23 p.m.; Mercury, 4.39 a.m., 6.25 p.m.; Venus, 2.39 a.m., 2.50 p.m.; Mars, 1.48 a.m., 1.24 p.m.; Jupiter, 4.25 a.m., 5.59 p.m.; Saturn, 11.33 p.m., 9.51 a.m. Full moon, November 1; new moon, November 15.

High water at Fort Denison; 10.50 a.m., 11.17 p.m.

H. A. LENEHAN,
Acting Government Astronomer.

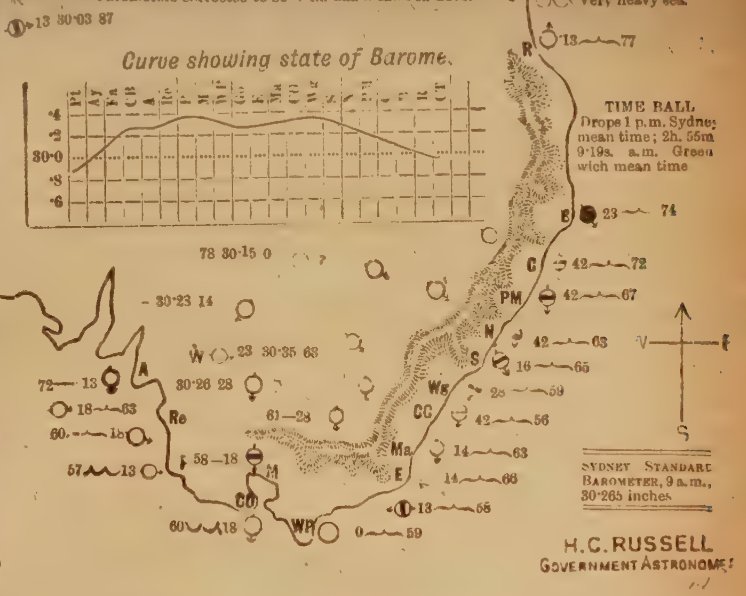
	W.T.	M'x	M'n	R'n
Balranald	b	101	55	–
Bathurst	b	87	52	0
Bendem'r	u	83	55	0·26
Bodalla	b	67	48	0
Bourke	b	96	64	0
Bungarra	b	77	64	0·15
C'md'n H.	c	71	64	0
C. St. Geo.	g	67	51	0·47
Carcoar	b	74	51	0
Casino	r	89	61	0·90
Cassilis	u	76	58	0·18
Clarence	c	81	66	0·10
C'nd'b'lin	b	91	43	0
Cooma	b	69	42	–
Coonab'n.	b	85	53	0
Cowra	b	86	58	0
Cudg'llico	b	89	54	0
Deniliq'n.	b	82	41	0
Dubbo	b	88	55	0
Eden	b	74	51	0·01
Euston	b	87	50	0
Forbes	b	—	49	0
G'bo Isl'nd	c	63	52	0·02
Glen Inn's	g	82	53	0
Goulburn	g	80	39	0·32
Grafton	r	85	64	0·20
Gulgong	b	81	40	0
Gunned'h	b	90	57	0
Hay	b	82	49	0
Inverell	b	83	55	0
Kiandra	b	75	26	0
Lismore	r	92	68	0·27
Maitland	g	81	59	0·32
M'n'ng H.	c	70	57	0
Marsdens	b	85	62	0
Menindie	b	67	59	0
Molong	b	87	50	0
M'r'ng'r'll	b	82	50	0
Moree	b	95	62	0
Moruya	b	69	51	0
Moss Vale	r	52	48	0·39

MAGNETIC VARIATION, 9° 35' 37" E.

Average Annual Rainfall for 28 years	49·489
Average for 29 years from Jan. 1 to Oct. 31	44·275
Total Rainfall from Jan. 1, to Nov. 22 1887	54·590

Barometers corrected to 32° Fah. and Mean Sea Level

If it is CALM, the symbol used without the arrow.
Smooth sea.
Heavy sea.
Very heavy sea.



TIME BALL
Drops 1 p.m. Sydney mean time; 2h. 55m 9·19s. a.m. Greenwich mean time

SYDNEY STANDARD BAROMETER, 9 a.m., 30·265 inches

H. C. RUSSELL
GOVERNMENT ASTRONOMER

	W.T.	M'x	M'n	R'n
Mt. Hope	b	92	55	0
M. Vict'ria	o	73	41	0·18
Mudgee	g	83	52	0
M'rr'mb'h	b	80	54	0
M'rr'r'ndi	g	74	59	0·08
Mus'lbr'k	u	66	54	0·02
Narrabri	b	94	61	0
Newcastle	r	71	55	0·37
Orange	b	79	52	0
Picton	g	75	53	0·51
P. M'q'rie	g	74	60	0·08
P. St'ph'n	r	77	53	0·60
Q'nbeyan	b	81	41	0·10
Quirindi	b	91	60	0·15
Singleton	r	78	61	0·60
SYDNEY	c	69	57	0·14
Taralga	g	79	42	0·09
Taree	r	70	40	0·03
T'nt'rfield	u	85	56	0·21
Wagga	b	88	49	0
Walcha	b	73	47	0·04
Walgett	b	89	62	0
Warialda	b	90	56	0
Warrah	g	81	61	0·20
W'ntw'rth	b	83	55	0
W'll'ng'ng	c	73	52	0·55
Young	b	89	51	0

NOTES EXPLANATORY OF MAP.

In the list of stations the column headed W.T. gives the state of the weather at 9 a.m., b, standing for blue sky; c, detached clouds; d, drizzling rain; f, fog; g, gloomy; h, hazy; m, misty; n, frosty; o, overcast; p, passing showers; r, rain; s, snow; t, thunder; u, threatening. The next column, M'x gives the maximum temperature for previous 24 hours; M'n the corresponding minimum temperature; r'n, the rain for the previous 24 hours. The symbols used in the map are explained on the margin. At each coast station the wind symbol is placed like a vane pointing to the direction from which the wind is coming. A clear circle with it means fine weather; a circle with bar, cloudy weather; and a black spot, raining. Next to this symbol are placed figures denoting the number of miles the wind is moving per hour; next, a symbol showing the state of the sea; and, lastly, figures denoting the shade temperature at 9 a.m. The barometer curve shows the state of barometers round the coast from Perth to Cooktown:—Pt, Perth; Ay, Albany; Ea, Eucla; CB, Cape Borda; A, Adelaide; Re, Robe; P. Portland; M, Melbourne; W P, Wilson's Promontory; Go, Gabo; E, Eden; Ma, Moruya; C G, Jervis Bay; Wg, Wollongong; S, Sydney; N, Newcastle; P M, Port Macquarie; C, Clarence River; B, Brisbane; R, Rockhampton; Ct, Cooktown. Inland the state of barometer is given in figures at Albury, Deniliquin, Wentworth, Menindie, Bourke, and Alice Springs. The barometer curve enables one at a glance to trace the depressions, beginning with Western Australia, and passing along eastwards; northerly winds preceding them, and southerly following.

The rainfall on Sundays or holidays, when this map is not published, is in all cases included in the quantities shown by the next following map.

9 A.M. OBSERVATIONS.

Western Australia.—Generally fine, with light variable, chiefly S.E. to S.W., winds and smooth sea. Extremes of barometers and temperature: Cossack, 30·03 and 79°; Perth, 29·86; and Eucla, 68°.

South Australia.—Generally fine and warm, with light to fresh S.E. to N.E. winds and calms, and smooth sea. Rough sea off Cape Northumberland. Extremes of barometers and temperature: Cape Northumberland, 30·28 and 57°; Port Darwin, 29·89 and 85°.

Victoria.—Fine, with scattered clouds throughout, light to fresh S. to S.E. winds, smooth to moderate sea, but rather rough off Cape Otway. Extremes of barometers and temperature: Cape Otway, 30·36; Horsham, 30·22 and 66°; Ballarat, 58°.

Tasmania.—Generally fine, with light to fresh northerly winds and smooth to moderate sea. Extremes of barometers and temperature: Circular Head, 30·24; Falmouth, 30·12; Low Heads, 59°; and Hobart, 65°.

New Zealand.—Generally cloudy and showery, with fresh N.W. to W. winds. Barometers: In north, 30·0; to southward, 29·7.

Queensland.—Fine inland; more or less cloudy and gloomy along the coast; showery in extreme S.E. parts; light variable, chiefly N. to N.E., winds; smooth sea. Thunderstorms, with light to heavy rains, have occurred in the Moreton, Darling Downs, and Wide Bay districts. Extremes of barometers and temperature: Brisbane, 30·05 and 74; Cooktown, 29·95 and 85°.

New South Wales.—Cloudy, cold, and showery along the coast; unsettled in the adjoining districts; fine and clear west of the dividing ranges. Winds are generally light to fresh south to easterly. The sea is smooth to moderate. Light rains have fallen in the Eastern division generally; heaviest on the Richmond River, where nearly an inch was recorded. Extremes of barometers and temperature: Wentworth, 30·35; Clarence, 30·09; Bourke, 78°; and Mount Victoria, 45°. For further particulars see map.

3 P.M. OBSERVATIONS.

South Australia.—Adelaide, S.W., 8, fine, temperature 81°.

Victoria.—Portland, S.S.E., 28, fine, smooth sea, temperature 62°; Cape Otway, S.S.E., 18, misty, rough sea, temperature 62°; Melbourne, S.W., 13, fine, temperature 63°; Cape Schanck, S.E., 23, fine, moderate sea, temperature 62°; Wilson's Promontory, W.S.W., 18, fine, squally, smooth sea, temperature 58°; Lakes Entrance, S., 13, fine, temperature 65°.

New South Wales.—Menindie, S.E., 14, fine and hot, temperature 77°; Deniliquin, E., 14, fine, temperature 67°; Eden, E., 14, fine, smooth sea, temperature 65°; Moruya, E., 28, fine, smooth sea, temperature 65°; Cape St. George, S.E., 42, cloudy and dull, smooth sea, temperature 62°; Sydney, S.E., 16, fine but unsettled and cool, moderate sea, temperature 6?°; Newcastle, S.E., 28, fine, smooth sea, temperature 64°; Port Macquarie, S., 42, cloudy, smooth sea, temperature 72°; Clarence River, S., 42, showery, smooth sea, temperature 70°; Walgett, S.W., 14, fine, temperature 82°; Euston, S., 14, fine, temperature 72°; Dubbo, S.E., 14, fine, temperature 74°; Goulburn, E., 14, dull, temperature 63°; Singleton, S.E., 14, dull, like rain.

Queensland.—Townsville, N., fine, smooth sea, temperature 82°; Mackay, N., 28, fine and hot; Rockhampton, E.N.E., 18, cloudy, temperature 83°; Cape Moreton, S.E., 28, cloudy and squally, temperature 74°; Brisbane, S.E., 23, cloudy, temperature 71°; Hughenden, S.W., 28, fine and hot; Boulia, S., 13, cloudy; Blackall, calm, fine and hot; Thargomindah, S.E., fine and hot; Roma, S.E., 18, fine, temperature 85°.

HEIGHT OF RIVERS ABOVE SUMMER LEVEL.

Macintyre: At Yetman, low; at Mungindi, low. Barwon: At Mogil Mogil, low; at Walgett, low. Namoi: At Walgett, low. Culgoa: At Goodooga, low. Darling: At Brewarrina, low; at Bourke, falling, 2ft. 5in.; at Louth, falling, 4ft.; at Tilpa, falling, 6ft. 9in.; at Wilcannia, stationary, 9ft.; at Menindie, 21ft. 6in.; at Pooncarie, 22ft. 3in.; at Wentworth, 21ft. 2in. Murrumbidgee: At Gundagai, falling, 6ft. 6in.; at Wagga, 8ft. 6in.; at Hay, rising, 16ft. 11in.; at Balranald, 15ft. 9in. Murray: At Albury, 8ft. 5in.; at Euston, 22ft. 2in.

ASTRONOMICAL MEMORANDA FOR NOVEMBER 23.

Sun rises at 4.46, sets at 6.47; Moon, 12.20 a.m., 2.36 a.m.; Mercury, 4.14 a.m., 5.46 p.m.; Venus, 2.34 a.m., 3.1 p.m.; Mars, 1.39 a.m., 1.18 p.m.; Jupiter, 4.12 a.m., 5.48 p.m.; Saturn, 11.18 p.m., 9.36 a.m. Full moon, November 1; new moon, November 15.

High water at Fort Denison: 1.35 a.m., 2.4 p.m.

H. C. RUSSELL,
Government Astronomer.

METEOROLOGICAL REPORTS AND MAP FOR DECEMBER 9, 18[illegible]

Stations.	wt	Mx	m	Rn.
Albury ..	b	83	64	[illegible]
Armidale	b	73	52	0
Balranald	b	89	49	0
Bathurst	b	77	48	0
Bendem'r	c	76	49	0
Bodalla ..	b	71	50	[illegible]
Bourke ..	b	96	61	0
Buncarra	b	96	40	0
C'md'n H.	–	–	–	–
C. St. Geo.	b	74	55	0
Carcoar ..	b	76	46	0
Casino ..	c	80	61	0
Cassilis ..	c	73	61	0
Clarence .	c	76	63	0
C'nd'b'lln	c	86	46	0
Cooma ..	c	80	40	0
Coonab'n.	b	86	48	0
Cowra ..	b	90	59	0
Cudg'llico	b	82	62	0
Deniliq'n.	b	90	44	0
Dubbo ..	g	82	44	0
Eden	b	73	60	0
Euston ..	b	87	61	0
Forbes ..	b	—	48	0
G'bo Isl'nd	b	74	58	0
Glen Inn's	b	88	50	0
Goulburn	b	78	46	0
Grafton ..	g	83	65	0
Gulgong .	b	72	41	0
Gunned'h	c	84	60	0
Hay ..	b	88	67	0
Inverell ..	b	81	56	0
Kiandra ..	b	79	27	0
Lismore .	c	79	65	0
Maitland .	b	77	58	0
M'n'ng H.	b	67	52	0
Marsdens.	b	84	56	0
Menindie.	g	87	65	0
Molong ..	b	79	48	0
M'r'ng'r'll	b	82	54	0
Moree ..	b	92	59	0
Moruya ..	b	73	65	0
Moss Vale	b	74	52	0
Mt. Hope	b	92	6[illegible]	[illegible]
M. V[illegible]	b	79	43	0
Mudgee ..	b	73	47	0
M'rr'mb'h	b	77	55	0
M'rr'r'n'h	b	75	55	0
Mus'br'k	b	85	54	0
Narrabri	b	83	59	0
Newcastl	b	63	58	0
Orange ..	b	72	49	0
Picton ..	b	73	46	0
P. M'q'rie	–	–	–	–
P. St'ph'n	b	77	41	0
Q'nbeyan	b	95	59	0
Quirindi	b	87	51	0
Singleton	b	76	51	0
SYDNEY	b	71	56	0
Taralga ..	b	73	44	0
Taree ..	b	76	51	0
Tent'rfield	c	77	53	0
Wagga ..	b	99	50	0
Walcha ..	c	70	40	0
Walgett ..	b	92	54	0
Warialda	b	87	54	0
Warrah ..	b	80	55	0
Watw'rth	b	90	62	0
Wil'ng'ng	b	76	53	0
Young ..	b	84	55	0

EUCLA 18——82

SYDNEY OBSERVATORY.

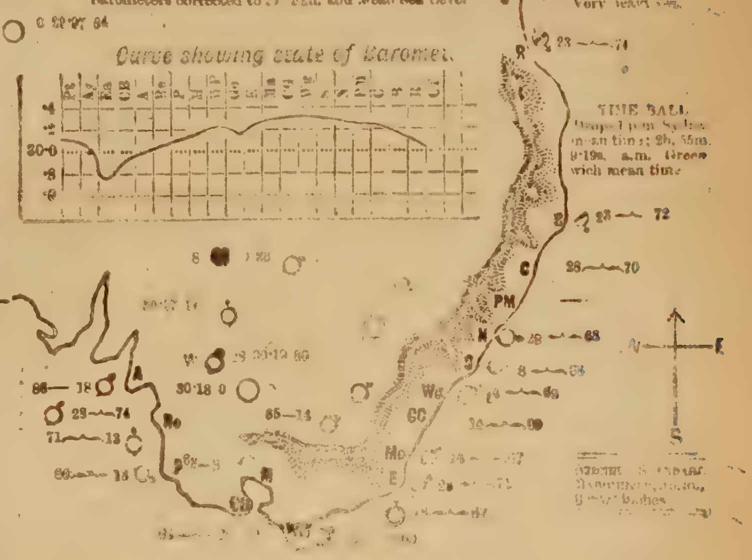
LATITUDE 33° 51' 41" S. LONGITUDE 10h. 4m. 50·81s. E.

MAGNETIC VARIATION, 9° 35' 37" E.

Average Annual Rainfall for 2[illegible] years .... 49·498
Average for 29 years from Jan. 1 to Nov. 30 .... 47·495
Total Rainfall from Jan. 1, to Dec. [illegible] 1887 .... [illegible]6·211

Barometers corrected to 3[illegible]° Fah. and Mean Sea Level

[illegible] wind [illegible]
[illegible] wind S.
If it is calm, the [illegible] used without the arrow
Smooth sea.
Heavy sea.
Very heavy sea.



NOTES EXPLANATORY OF MAP.

In the list of stations the column headed W.T. gives the [illegible] weather at 9 a.m., b, standing for [illegible] [illegible] hazy; m, misty; [illegible], foggy; [illegible], overcast; [illegible] [illegible] thunder; [illegible], threatening. The next column [illegible] the maximum temperature for previous 24 hours [illegible] the corresponding minimum temperature [illegible] the [illegible] previous 24 hours. The symbols used in the map are explained on the margin. At each coast station the wind symbol [illegible] like a vane pointing to the direction from which the wind is coming. A [illegible] circle [illegible] means [illegible] weather [illegible] circle with bar, cloudy weather, and [illegible] [illegible] [illegible]. Next to this [illegible] denoting the number of miles the wind is blowing per hour [illegible] the state of the sea [illegible] [illegible] the barometer curve shows the state of [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] P. Portland; M. Melbourne; [illegible] [illegible] [illegible] the stated barometer is given [illegible] [illegible] [illegible] Port [illegible] [illegible] depression [illegible] with [illegible] [illegible] winds preceding them and [illegible] following.

The rainfall at [illegible] of [illegible] [illegible] is not published, is [illegible] included in the quantities shown by the [illegible] [illegible].

9 A.M. OBSERVATIONS.

Western Australia.—Fine along the west coast; cloudy and gloomy in south parts; light to fresh S.E. to S.W. winds; smooth to moderate sea. Extremes of barometers and temperature: Albany, 30·08 and 62°; Ashburton, 29·91 and 90°.

South Australia.—Generally fine and warm, with increasing temperature; light to fresh N.E. to N. winds; smooth sea. Thunderstorms occurred during the night in parts between Tennant's Creek and Port Darwin. Extremes of barometers and temperature: Cape Northumberland, 30·05 and 65°; Port Darwin, 29·83 and 88°.

Victoria.—Generally fine, clear, and warm, with light E. to E.N.E. winds, and smooth sea. Extremes of barometers and temperature: Wilson's Promontory, 30·21 and 60°; Portland, 30·06; and Horsham, 72°.

Tasmania.—Generally fine and clear, with light to fresh north to east winds, and smooth to moderate sea. Extremes of barometers and temperature: Low Heads, 30·25 and 62°; Hobart, 30·18 and 67°.

New Zealand.—Generally fine, with light S.E. winds. Barometers, generally 30·1.

Queensland.—Generally more or less cloudy and gloomy, and in parts showery; fresh to strong N.E. to S.E. winds, smooth to moderate sea. Rainfall: Geraldton, 5·69in.; Cloncurry, 1·22in. Extremes of barometers and temperature: Brisbane, 30·20 and 73°; Normanton, 29·92 and 78°.

New South Wales.—Generally fine, with scattered clouds, and at places gloomy; light to fresh E. to N.E. winds, smooth sea. No rain fell in the colony during the last twenty-four hours. Extremes of barometers and temperature: Sydney, 30·29; Gabo Island, 30·15; Wentworth, 80°; and Mount Victoria, 57°. (For further particulars see map.)

3 P.M. OBSERVATIONS.

Victoria.—Portland, E.S.E., 28, fine, smooth sea, temperature 72°; Cape Otway, E., 23, fine, smooth sea, temperature 66°; Melbourne, S., 13, fine, temperature 78°; Cape Schanck, E., 13, fine and hazy, slight sea, temperature 64°; Wilson's Promontory, N.E., 18, fine but cloudy, smooth sea, temperature 62°; Lakes Entrance, E., 18, fine, temperature 71°; Omeo, [illegible] temperature 81°.

New South Wales.—Menindie, calm, fine, and hot, temperature 84°; Wentworth, N.E., 12, fine and hot, temperature 77°; Deniliquin, calm, fine and warm, temperature 86°; Eden, N.E., 42, fine, smooth sea, temperature [illegible]; Moruya, N.E., 28, fine, smooth sea, temperature 68°; Cape St. George, N.E., 42, fine but cloudy, smooth sea, temperature 68°; Sydney, [illegible] E. 14, fine, with light scattered clouds, smooth sea, temperature [illegible]; Newcastle, N.E., 28, fine, smooth sea, temperature [illegible]; Port Macquarie, S.E., 28, fine, smooth sea, temperature 73°; Clarence River, S., 14, fine, smooth sea, temperature 74°; Walgett, [illegible] 14, cloudy, temperature 82°; Dubbo, E., 14, fine, [illegible] cloudy, temperature 72°; Goulburn, N.E., 14, fine, temperature 7[illegible].

Queensland.—For[illegible] S.E., 23 fine, moderate sea, temperature 80°; Mackay, [illegible] 28 fine; Rockhampton, S.E., 2[illegible] cloudy, temperature 77°; Cape Moreton, S.E. 2[illegible] cloudy and threatening, temperature 77; Brisbane, S.E., 18, cloudy, temperature 75°; Hughenden, N., 13, [illegible] light; [illegible], N.E., cloudy; Blackall, S.E., 5, cloudy and close, temperature 9[illegible]; Thargomindah, S.W., 18, overcast, temperature 89°.

HEIGHT OF RIVERS ABOVE SUMMER LEVEL.

Macintyre: At Yetman, stationary, 3[illegible]. [illegible] Mungindi, stationary, 5ft. Barwon: At Mogil Mogil, stationary, 3ft. 6in.; at Walgett, low. Namoi: At Walgett, low. Culgoa: At Goodooga, low. Darling: At Brewarrina, low; at Bourke, low; at Louth, falling, 5ft. 9in.; at Tilpa, falling, 4ft.; at Wilcannia, falling, 6ft. 1in.; at Menindie, 15ft. 6in.; at Wentworth, 20ft. 9in. Murrumbidgee: At Gundagai, falling, 7ft. 3in.; at Wagga, 9ft.; at Hay, falling, 7ft. 10in.; at Balranald, 11ft. 6in.; Murray: At Albury, 6ft. 10in.; at Euston, 22ft. 6in.

ASTRONOMICAL MEMORANDA FOR DECEMBER 10.

Sun rises at 4.44, sets at 7.2; Moon, 1.34 a.m., 1.32 p.m. Mercury, 3.40 a.m., 5.24 p.m; Venus, 2.17 a.m., 3.14 p.m.; Mars, 12.55 a.m., 12.55 p.m.; Jupiter, 3.16 a.m., 4.59 p.m.; Saturn, 10.9 p.m., 8.27 a.m. Full moon, 1st; new moon, 15th.

High water at Fort Denison: 3.6 a.m, 3.43 p.m.

H. C. RUSSELL,
Government Astronomer.

METEOROLOGICAL REPORTS AND MAP FOR DECEMBER 10, 1887.

Stations.	wt	Mx	mn	r'n
Albury ..	c	89	59	0
Armidale	b	71	51	..
Balranald	b	92	50	0
Bathurst	b	81	46	0
Bendem'r	b	78	47	0
Bodalla ..	b	69	52	0
Bourke .	g	[illegible]	[illegible]	0
Bungarra	b	97	41	0
C'md'n H.	b	72	62	0
C. St. Geo.	b	70	56	0
Carcoar ..	b	73	39	0
Casino ..	b	77	58	0
Cassilis .	b	73	[illegible]	0
Clarence .	c	77	61	0
C'nd'b'lin	b	88	48	0
Cooma ..	c	82	47	0
Coonab'n.	b	82	53	0
Cowra	b	92	56	0
Cudg'llico	b	85	64	0
Deniliq'n.	b	98	54	0
Dubbo ..	b	87	54	0
Eden	b	72	60	0
Euston ..	b	101	65	0
Forbes ..	b	—	48	0
G'bo Isl'nd	b	74	58	0
Glen Inn's.	g	80	52	0
Goulburn	b	78	45	0
Grafton ..	u	77	66	0
Gulgong .	b	75	38	0
Gunned'h	b	81	60	0
Hay	b	94	73	0
Inverell. .	b	82	56	0
Kiandra. .	b	85	29	0
Lismore. .	c	77	62	0
Maitland .	h	76	55	0
M'n'ng H.	b	71	52	0
Marsdens.	b	85	66	0
Menindie.	b	95	70	0
Molong ..	b	78	44	0
M'r'ng'r'll	b	86	60	0
Moree ..	b	87	54	0
Moruya . .	b	73	54	0
Moss Vale	b	73	51	0
Mt. Hope	b	92	62	0
M. Vict'ria	b	78	44	0
Mudgee . .	h	79	47	0
M'rr'mb'h	–	—	—	–
M'rr'r'ndi	b	74	53	0
Mus'lbr'k	b	81	53	0
Narrabri	h	94	63	0
Newcastle	c	75	61	0
Orange ..	b	75	50	0
Picton ..	–	—	—	–
P. M'q'rie	b	73	57	0
P. St'ph'n	b	80	55	0
Q'nbeyan	b	97	70	0
Quirindi	b	88	56	0
Singleton	b	77	57	0
SYDNEY ..	c	69	56	0
Taralga . .	b	74	46	0
Taree ...	b	78	51	0
T'nt'rfield	c	73	52	0
Wagga ..	b	91	54	0
Walcha . .	o	71	42	0
Walgett	c	91	67	0
Warialda	b	86	58	0
Warrah .	b	80	58	0
W'ntw'rth	b	99	68	0
W'll'ng'ng	b	76	56	0
[illegible]	b	87	53	0

SYDNEY OBSERVATORY.

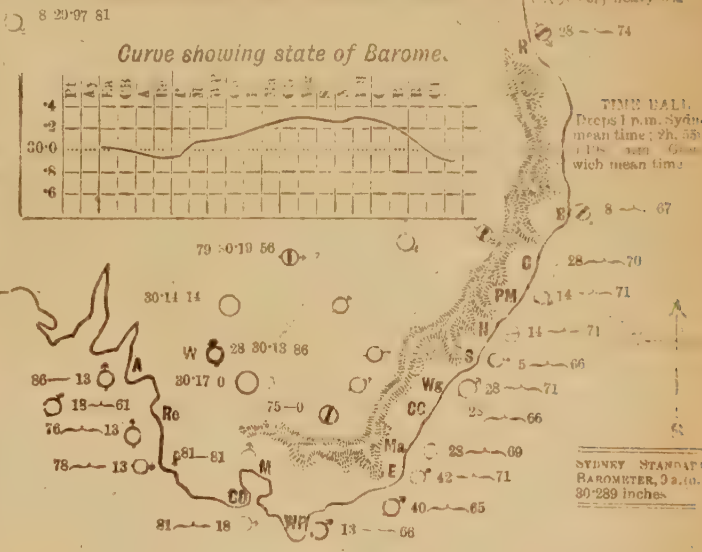
LATITUDE 33° 51' 41" S. LONGITUDE 151° 12' 30" E. [partly illegible]

MAGNETIC VARIATION, 9° 35' 37" E.

Average Annual Rainfall for 28 years .... 49·489
Average for 29 years from Jan. 1 to [illegible] .... 47·4[illegible]
Total Rainfall from Jan. 1, to Dec. 10 1887 .... 56·111

Barometers corrected to 32° Fah. and Mean Sea Level

Fine, [illegible] wind N [illegible]
[illegible] wind S. [illegible]
If it is CALM, the symbol [is used] without the arrow
Smooth sea.
Heavy sea.
Very heavy sea.



NOTES EXPLANATORY OF MAP.

In the list of stations the column headed W.T. gives the state of the weather at 9 a.m., b, standing for blue sky; c, detached clouds, d, drizzling rain; f, fog; g, gloomy; h, hazy; m, misty; n, frosty; o, overcast; p, passing showers; r, rain; s, snow; t, thunder; u, threatening. The next column, Mx gives the maximum temperature for previous 24 hours; M'n the corresponding minimum temperature; r'n, the rain for the previous 24 hours. The symbols used in the map are explained on the margin. At each coast station the wind symbol is placed like a vane pointing to the direction from which the wind is coming. A clear circle with [illegible] means fine weather; a circle with bar, cloudy weather; and a black spot, calm[?]. Next to this symbol are placed figures denoting the number of miles the wind is moving per hour; next, a symbol showing the state of the sea; and, lastly, figures denoting the shade temperature at 9 a.m. The barometer curve shows the state of barometers round the coast from Perth to Cooktown: —Pt, Perth Av, Albany Eu, Eucla CB, Cape Borda A, Adelaide Re, Robe; P, Portland; M, Melbourne W P, Wilson's Promontory, Go, Gabo, E, Eden, Ma, Moruya; C G, Jervis Bay; Wg, Wollongong; S, Sydney; N, Newcastle; P M, Port Macquarie; C, Clarence River; B, Brisbane, R, Rockhampton; Ck, Cooktown. Inland the state of barometer is given in figures at Albury, Deniliquin, Wentworth, Menindie, Bourke, and Alice Springs. The barometer curve enables one at a glance to trace the depressions, beginning with Western Australia and passing along eastwards; northerly winds preceding them and southerly following.

The rainfall on Sundays or holidays, when this map is not published, is in all cases included in the quantities shown by the next following map.

9 A.M. OBSERVATIONS.

Western Australia.—Fine on the west coast; cloudy and gloomy in south; light to fresh S. to E. winds; smooth to moderate sea. Extremes of barometers and temperature: Albany, 30·25 and 63°; Ashburton, 29·86 and 92°.

South Australia.—Generally fine and hot, with scattered clouds in places on and near the coast; fresh N. to N.W. winds; smooth sea. Thunderstorms occurred at places during the night. Rainfall: Beltana, 0·43in. Extremes of barometers and temperature: Eucla, 30·05 and 65°; Port Darwin, 29·80 and 87°.

Victoria.—Generally fine and hot; light N. to N.E. winds and calms; smooth to moderate sea. Extremes of barometers and temperature: Omeo, 30·16; Portland, 29·92; Echuca, 84°; and Cape Schanck, 66°.

Tasmania.—Generally fine, with light to fresh N. to N.E. winds; smooth sea, but rough off Circular Heads. Extremes of barometers and temperature: Low Heads, 30·17; Hobart, 30·06 and 74°; Circular Heads, 59°.

New Zealand.—Generally fine, with light N.E. and S.E. winds. Barometers: In south, 30·4; over the centre, 30·3; in north, 30·2.

Queensland: Cloudy and gloomy throughout; fresh N.E. to S.E. winds; moderate sea. Extremes of barometers and temperature: Brisbane, 30·20 and 67°; Normanton, 29·87 and 82°.

New South Wales.—Fine generally, but in north and N.E. parts cloudy and unsettled. Winds are generally light to fresh, and in north parts rather strong easterlies, with calms at places. The sea is smooth. No rain fell in the colony during the past 24 hours. Extremes of barometers and temperature: Wollongong, 30·30; Gabo, 0·11; Wentworth, 80°; and Armidale, 58°.

For further particulars see map.

3 P.M. OBSERVATIONS.

New South Wales.—Menindie, E., fine, clear, hot, temperature 81°; Wentworth, E., fine, hot; Deniliquin, calm, fine, warm, temperature 86°; Eden, N.E., 42, fine, smooth sea, temperature 70°; Moruya, N.E., 42, fine, smooth sea, temperature 69°; Cape St. George, N.E., 42, fine, smooth sea, temperature 66°; Sydney, N.E., 20, fine, moderate sea; Newcastle, N.E., 20, fine, smooth sea, temperature 68°; Port Macquarie, S.S.E., 14, fine, smooth sea, temperature 79°; Clarence River, S.E., 20, fine, smooth sea, temperature 74°; Walgett, N.E., cloudy, temperature 82°; Dubbo, S.E., 14, fine, temperature 75°; Goulburn, E., 10, fine, temperature 71°.

HEIGHT OF RIVERS ABOVE SUMMER LEVEL.

Macintyre: At Yetman, 2ft. 9in.; at Mungindi, 6ft. Barwon: At Mogil Mogil, falling 3ft.; at Walgett, low. Namoi: At Walgett, low. Culgoa: At Goodooga, low. Darling: At Brewarrina, low; at Bourke, low; at Louth, falling, 2ft. 6in.; at Tilpa, falling, 3ft. 8in.; at Wilcannia, stationary, 6ft. 1in.; at Menindie, falling, 14ft. 6in.; at Wentworth, 20ft. 7in. Murrumbidgee: At Gundagai, falling, 6ft. 10in.; at Wagga, 8ft.; at Hay, rising, 8ft. 1in.; at Balranald, 16ft. 6in.; Murray: At Albury, 6ft. 6in.; at Euston, 22ft. 5in.

ASTRONOMICAL MEMORANDA FOR DECEMBER 12.

Sun rises at 4.44, sets at 7.4; Moon, 2.52 a.m., 3.46 p.m. Mercury, 3.40 a.m., 5.29 p.m; Venus, 2.16 a.m., 3.16 p.m.; Mars, 12.50 a.m., 12.52 p.m.; Jupiter, 3.10 a.m., 4.53 p.m.; Saturn, 10.1 p.m., 8.19 a.m. Full moon, 1st; new moon, 15th.

High water at Fort Denison: 5.36 a.m, 6.11 p.m.

H. C. RUSSELL,
Government Astronomer.

METEOROLOGICAL REPORTS AND MAP FOR DECEMBER 16, 1887.

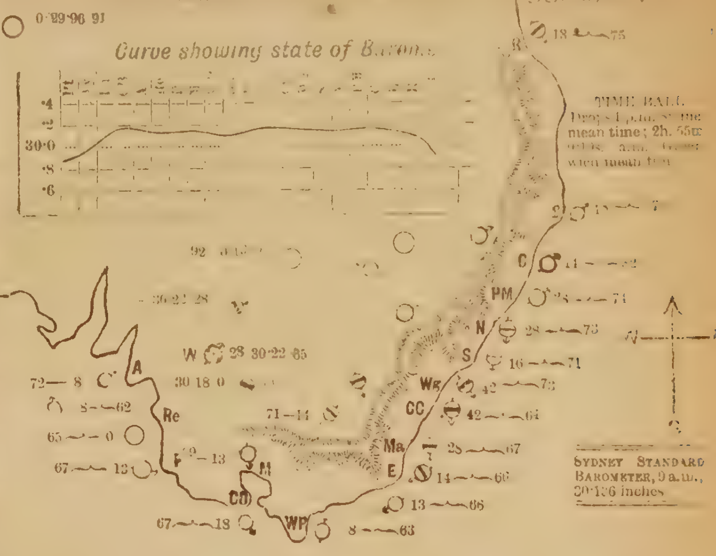
Stations.	W.T.	Max	Min	Rn.
Albury ..	u	92	66	0
Armidale	b	88	65	0·70
Balranald	r	93	59	0
Bathurst	b	95	57	0
Bendem'r	g	92	61	0·29
Bodalla ..	g	80	53	0
Bourke ..	b	107	71	0
Bungarra	b	85	31	0
C'nd'n H.	b	79	67	0
C. St. Geo.	g	91	62	0
Carcoar ..	b	85	51	0
Casino ..	b	94	55	0
Cassilis ..	c	89	67	0
Clarence .	b	84	67	0
C'nd'b'lin	b	105	59	0
Cooma ..	c	94	60	0
Coonab'n.	b	95	57	0
Cowra ..	b	105	71	0
Cudg'llico	b	106	71	0
Deniliq'n.	g	91	62	0
Dubbo ..	b	99	59	0
Eden	g	73	62	0
Euston ..	g	73	60	0·10
Forbes ..	b	—	51	0
G'bo Isl'nd	b	74	61	0
Glen Inn's	b	90	59	0
Goulburn	g	97	55	0
Grafton ..	b	89	62	0
Gulgong .	b	92	51	0
Gunned'h	b	96	72	0
Hay	b	92	65	0·02
Inverell ..	h	88	68	0
Kiandra ..	c	88	41	0
Lismore .	b	90	60	0
Maitland .	b	95	63	0
M'n'ng H.	b	80	63	0
Marsdens.	b	100	75	0
Menindie.	g	95	69	0
Molong ..	b	97	59	0
M'r'ng'r'll	b	99	69	0
Moree ..	g	94	68	0
Moruya ..	g	80	60	0
Moss Vale	u	92	61	0
Mt. Hope	g	104	[illegible]	0
M. Viet'ria	b	101	60	0
Mudgee ..	n	98	56	0
M'rr'mb'h	b	95	65	0
M'rr'r'ndi	h	87	70	0
Mus'lbr'k	b	110	68	0
Narrabri	h	98	73	0
Newcastle	g	83	64	0
Orange ..	b	87	59	0
Picton ..	b	91	60	0
P. M'q'ric	h	78	68	0
P. St'ph'n	g	90	54	0
Q'nbeyan	b	93	70	0
Quirindi	b	100	65	0
Singleton	b	87	63	0
SYDNEY ..	c	80	66	0
Taralga ..	g	91	52	0
Taree	b	92	64	0
T'nt'rfield	b	93	59	0
Wagga ..	b	101	61	0
Walcha ..	b	84	48	0·45
Walgett	b	104	73	0
Warialda	b	92	67	0·04
Warrah ..	b	95	69	0
W'ntw'rth	r	69	62	0·08
W'll'ng'ng	c	83	62	0
Young ..	b	105	62	0

SYDNEY OBSERVATORY.

LATITUDE 33° 51' 41" S. LONGITUDE 10h. 4m. 50·81s. E.

MAGNETIC VARIATION, 9° 35' 37" E.

Average Annual Rainfall for 28 years.................49·4[illegible]
Average for 29 years from Jan. 1 to Nov. 30 ...... 47·405
Total Rainfall from Jan 1, to Dec. 16 1887 ...... 56·114
Barometers corrected to 32° Fah. and Mean Sea Level



NOTES EXPLANATORY OF MAP.

In the list of stations the column headed W.T. gives the state of the weather at 9 a.m., b, standing for blue sky; c, detached clouds; d, drizzling rain; f, fog; g, gloomy; h, hazy; m, misty; n, frosty; o, overcast; p, passing showers; r, rain; s, snow; t, thunder; u, threatening. The next column, M'x gives the maximum temperature for previous 24 hours; M'n the corresponding minimum temperature, r'n, the rain for the previous 24 hours. The symbols used in the map are explained on the margin. At each coast station the wind symbol is placed like a vane pointing to the direction from which the wind is coming. A clear circle with it means fine weather; a circle with bar, cloudy weather; and a black spot, raining. Next to this symbol are placed figures denoting the number of miles the wind is moving per hour; next, a symbol showing the state of the sea; and, lastly, figures denoting the shade temperature at 9 a.m. The barometer curve shows the state of barometers round the coast from Perth to Cooktown:—Pt, Perth; Ay, Albany; Ea, Eucla; CB, Cape Borda; A, Adelaide; Re, Robe; P, Portland; M, Melbourne; W P, Wilson's Promontory; Go, Gabo; E, Eden; Ma, Moruya; C G, Jervis Bay; Wg, Wollongong; S, Sydney; N, Newcastle; P M, Port Macquarie; C, Clarence River; B, Brisbane; R, Rockhampton; Ct, Cooktown. Inland the state of barometer is given in figures at Albury, Deniliquin, Wentworth, Menindie, Bourke, and Alice Springs. The barometer curve enables one at a glance to trace the depressions, beginning with Western Australia, and passing along eastwards; northerly winds preceding them, and southerly following.

The rainfall on Sundays or holidays, when this map is not published, is in all cases included in the quantities shown by the next following map.

9 A.M. OBSERVATIONS.

Western Australia.—Generally fine, with light to fresh south to easterly winds, and smooth to moderate sea. Extremes of barometers and temperature: Esperance Bay, 29·94; Geraldton, 29·84; Ashburton, 87°; and Albany, 66°.

South Australia.—Generally fine, with few scattered clouds; cloudy and unsettled between Hergott and Burra; light S.E. to N.E. winds; smooth sea; thunderstorms with thunder showers have occurred between Hergott and Burra; from 0·01 to 0·18 inch rain was recorded. Extremes of barometers and temperature: Cape Borda, 30·17 and 62°; Port Darwin, 29·88, and Alice Springs, 91°.

Victoria.—Generally fine; in parts cloudy; light variable winds and calms; smooth sea, but rising at Cape Otway; light rains have fallen at scattered places, the records being from 0·03 to 0·20 inch. Extremes of barometers and temperature: Cape Otway, 30·20; Hamilton, 30·20; Horsham, 74°; and Omeo, 62°.

Tasmania.—Generally fine, with light to fresh westerly winds, and smooth to moderate sea. Extremes of barometers and temperature: Circular Heads, 30·14; Southport, 30·04; Hobart, 67°; and Low Heads, 63°.

New Zealand.—Fine in north and south; gloomy in Cook Strait; fresh to rather strong N.W. to S.W. winds. Barometers: In north, 30·1; over centre, 29·9; in south, 29·8°.

Queensland.—Generally fine, with scattered clouds, light N.E. to S.E. winds; smooth sea; heavy rains have fallen in the country and coasts around the Gulf of Carpentaria. Extremes of barometers and temperature: Brisbane, 30·19; Thursday Island, 29·91; Normanton, 86°; and Cape Moreton, 78°.

New South Wales.—Fine in north, cloudy in south, gloomy and threatening in S.W. and S.E. parts; light to fresh N.E. to N.W. winds in north; fresh S.E. to S.W. winds in south; smooth to moderate sea. Thunderstorms, with light to moderate rains, occurred during the night in the New England districts, and light rains have fallen on the Lower Murray. Extremes of barometers and temperature: Wentworth, 30·22; Gabo Island, 30·09; Bourke 91°, and Goulburn 64°. For further particulars see map.

3 P.M OBSERVATIONS.

Victoria.—Portland, E.S.E., 18, fine, smooth sea, temperature 67°; Cape Otway, S.E., 23, fine, moderate sea, temperature 68°; Melbourne, S.W., 13, cloudy, temperature 68°; Cape Schanck, E., 18, fine but cloudy, smooth sea, temperature 67; Wilson's Promontory, N.E., 8, fine, smooth sea, temperature 65°; Lakes Entrance, S.W., 23, cloudy, temperature 70°.

New South Wales.—Euston, S.W., 14, cloudy, dull, like rain; Menindie, calm, cloudy, and showery, temperature 76°; Wentworth, N., 14, cloudy, temperature 75°; Deniliquin, calm, overcast, and dull, temperature 76°; Eden, S.E., 14, fine but cloudy, light east sea, temperature 67°; Moruya, S., 14, overcast, like thunderstorm to W., smooth sea, temperature 69°; Cape St. George, S., 28, cloudy, and dull, smooth sea, temperature 69°; Sydney, S., 19, overcast and gloomy, moderate sea, temperature 74°; Newcastle, S., 14, fine, smooth sea, temperature 70°; Port Macquarie, N.E., 42, hazy, moderate sea, temperature 77°; Walgett, N.E., 14, cloudy and hot, temperature 92°; Dubbo, N., 14, fine, temperature 87°; Goulburn, N.E., 14, fine, temperature 75°; Balranald, calm, overcast, gloomy and threatening.

Queensland.—Townsville, S.E., 18, fine, smooth sea, temperature 75°.; Cape Moreton, N.E., 18, fine, temperature 75°; Blackall, S.E., 8, cloudy; Roma, E., 8, fine, temperature 68°.

HEIGHT OF RIVERS ABOVE SUMMER LEVEL.

Macintyre: At Yetman, 1ft. 8in.; at Mungindi, stationary, 14ft. **Barwon:** At Mogil Mogil, rising, 14ft.; at Walgett, rising, 6ft. 6in. **Namoi:** At Walgett, rising, 6ft. **Culgoa:** At Goodooga, low. **Darling:** At Brewarrina, low; at Bourke, low; at Louth, falling, 10in.; at Tilpa, falling, 2ft. 7in.; at Wilcannia, falling, 5ft. 10in.; at Menindie, 12ft. 3in.; at Pooncarie, 17ft.; **Murrumbidgee:** At Gundagai, stationary, 5ft.; at Wagga, 5ft. 6in.; at Hay, stationary, 10ft. 3in.; at Balranald, 16ft. 9in. **Murray:** At Albury, 4ft. 7in.; at Euston, 23ft.

ASTRONOMICAL MEMORANDA FOR DECEMBER 17.

Sun rises at 4.46, sets at 7.7; Moon, 7.12 a.m., 9.2 p.m. Mercury, 3.43 a.m., 5.44 p.m; Venus, 2.13 a.m., 3.22 p.m.; Mars, 12.37 a.m., 12.44 p.m.; Jupiter, 2.53 a.m., 4.38 p.m.; Saturn, 9.41 p.m., 7.58 a.m. Full moon, 1st; new moon, 15th.

High water at Fort Denison: 9.55 a.m., 10.16 p.m.

H. C. RUSSELL,
Government Astronomer.

Stations.	W.T.	Mx.	Mn.	Rs.
Albury ..	b	80	64	0
Armidale	b	83	64	0
Balranald	b	88	56	0
Bathurst	c	95	61	0·40
Bendem'r	b	93	59	1·20
Bodalla ..	u	57	50	0
Bourke ..	b	111	76	0
Bundarra	c	88	30	0
C'md'n H.	b	79	70	0
C. St. Geo.	b	71	61	0
Carcoar ..	g	87	51	0
Casino ..	b	94	58	0
Cassilis ..	h	87	68	0·10
Clarence .	b	84	67	0
C'nd'b'lin	g	102	59	0
Cooma ..	c	82	57	0·05
Coonab'n.	g	97	60	0
Cowra ..	g	96	69	0·23
Cudg'llico	c	101	62	0·17
Deniliq'n.	b	87	70	0
Dubbo ..	b	103	69	0
Eden ..	b	71	58	0·01
Euston ..	b	90	57	0
Forbes ..	u	—	59	0
G'bo Isl'nd	r	75	63	0
Glen Inn's	c	81	61	0·07
Goulburn	g	81	57	0
Grafton ..	h	89	64	0
Gulgong .	b	92	51	0
Gunned'h	b	96	70	0
Hay	b	79	61	0·02
Inverell ..	h	90	65	0·89
Kiandra ..	u	85	30	0·08
Lismore .	b	91	62	0
Maitland .	b	93	70	0
M'n'ng H.	g	78	62	0
Marsdens.	b	97	73	0·80
Menindie.	b	87	65	0
Molong ..	g	98	62	0·28
M'r'ng'r'll	g	96	66	0·90
Moree ..	b	93	66	0
Moruya ..	g	74	63	0
Moss Vale	b	69	60	0
Mt. Hope	u	96	68	
M. Vict'ria	b	84	55	0·05
Mudgee ..	h	97	61	0
M'rr'mb'h	c	93	64	0·54
M'rr'r'ndi	b	79	68	0
Mus'lbr'k	g	100	64	0
Narrabri	h	102	63	0
Newcastle	h	81	65	0
Orange ..	c	90	62	0·30
Picton ..	b	81	65	0
P. M'q'rie	h	79	65	0
P. St'ph'n	c	85	53	0
Q'nbeyan	r	83	52	0·18
Quirindi	h	98	70	0
Singleton	g	97	68	0
SYDNEY ..	c	77	67	0
Taralga ..	g	91	58	0
Taree	b	90	67	0
T'nt'rfield	b	94	54	0
Wagga ..	b	97	63	0·01
Walcha ..	c	80	57	0
Walgett	b	104	72	0
Warialda	–	—	—	–
Warrah ..	b	95	68	0·52
W'ntw'rth	b	83	65	0
W'll'ng'ng	c	81	64	0
Young ..	c	101	60	1·26

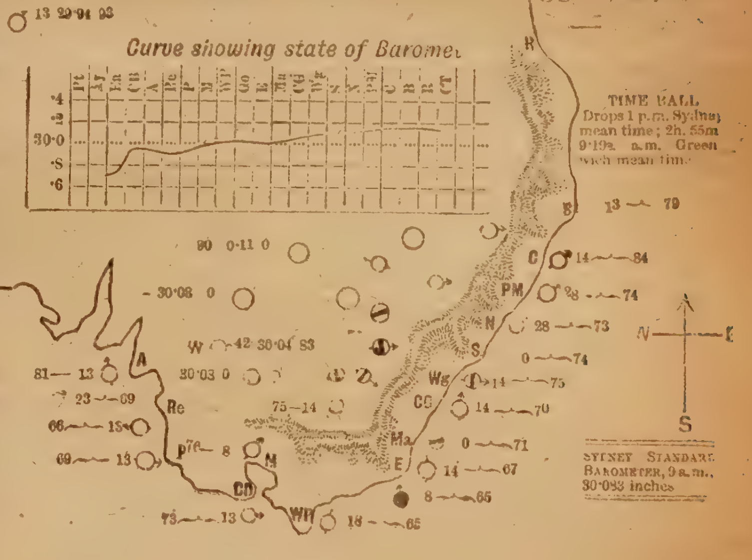
SYDNEY OBSERVATORY

LATITUDE 33° 51' 41" S. LONGITUDE 10h. 4m. 50s. E.

MAGNETIC VARIATION, 9° 35' 37" E.

Average Annual Rainfall for 28 years .... 49·89
Average for 29 years from Jan. 1 to Nov. 30 .... 47·455
Total Rainfall from Jan 1, to Dec. 17 1887 .... 50·114

Barometers corrected to 32° Fah. and Mean Sea Level



Fine, calm; wind N.; wind E.; wind S.; wind W.; If it is CALM, the symbol used without the arrow
Smooth sea.
Heavy sea.
Very heavy sea.

NOTES EXPLANATORY OF MAP.

In the list of stations the column headed W.T. gives the state of the weather at 9 a.m., b, standing for blue sky; c, detached clouds; d, drizzling rain; f, fog; g, gloomy; h, hazy; m, misty; n, frosty; o, overcast; p, passing showers; r, rain; s, snow; t, thunder; u, threatening. The next column, M'x gives the maximum temperature for previous 24 hours. M'n the corresponding minimum temperature; R'n, the rain for the previous 24 hours. The symbols used in the map are explained on the margin. At each coast station the wind symbol is placed like a vane pointing to the direction from which the wind is coming. A clear circle with it means fine weather; a circle with bar, cloudy weather; and a black spot, raining. Next to this symbol are placed figures denoting the number of miles the wind is moving per hour; next, a symbol showing the state of the sea; and, lastly, figures denoting the shade temperature at 9 a.m. The barometer curve shows the state of barometers round the coast from Perth to Cooktown:—Pt, Perth; Ay, Albany; Ea, Eucla; CB, Cape Borda; A, Adelaide; Re, Robe; P, Portland; M, Melbourne; W P, Wilson's Promontory; Gb, Gabo; E, Eden; Ma, Moruya; C G, Jervis Bay; Wg, Wollongong; S, Sydney; N, Newcastle; P M, Port Macquarie; C, Clarence River; B, Brisbane; R, Rockhampton; Ct, Cooktown. Inland the state of barometer is given in figures at Albury, Deniliquin, Wentworth, Menindie, Bourke, and Alice Springs. The barometer curve enables one at a glance to trace the depressions, beginning with Western Australia, and passing along eastwards; northerly winds preceding them, and southerly following.

The rainfall on Sundays or holidays, when this map is not published, is in all cases included in the quantities shown by the next following map.

9 A.M. OBSERVATIONS.

Western Australia.—Generally fine, but in south parts unsettled; light to fresh S.E. to S.W. winds, smooth to moderate sea. Extremes of barometers and temperature: Perth, 30·06; Esperance Bay, 29·92; Ashburton, 88°; and Albany, 62°.

South Australia.—Generally fine and warm, with scattered clouds and rising temperature; light N.E. to N. winds; smooth to moderate sea. Rainfall: Hergott, 0·52in.; Blinman, 0·30in. Extremes of barometers and temperature: Farina, 30·00; Eucla, 29·68 and 94°; Robe, 66°.

Victoria.—Generally fine and clear; light variable, chiefly easterly, winds and calms; smooth sea; sultry at places. Extremes of barometers and temperature: Lakes Entrance, 30·03; Portland, 29·90; Echuca, 79°; and Omeo, 61°.

Tasmania.—Generally fine, light variable winds, smooth sea. Extremes of barometers and temperature: Low Heads, 30·06 and 64°; Falmouth, 29·98; and Southport, 59°.

New Zealand.—Cloudy in extreme south, fine to northward light N.E. to N.W. and S.W. winds. Barometers: In north and south, 30·1; over the centre, 30·0.

Queensland.—Generally fine, with scattered clouds; showery at places along the coast, chiefly north of Townsville; light to fresh N.E. to S.E. winds, smooth sea. Extremes of barometers and temperature: Brisbane, 30·17; Thursday Island, 29.91; Normanton, 88°, and Cape Moreton, 77°.

New South Wales.—Generally cloudy in the southern parts of the coast and central territorial divisions, showery at Queanbeyan and Gabo Island. Over the remainder of the colony fine weather prevails. Winds are generally light to fresh S.E. to N.E. The sea is smooth. Rains have fallen along the western slopes of the dividing ranges, on the Upper Lachlan, and along the southern border. Several stations report an inch more or less. Extremes of barometers and temperature: Clarence, 30·19; Eden, 29·99; Bourke, 90°, and Kiandra, 58°. (For furthur particulars see map.)

3 P.M. OBSERVATIONS.

Victoria.—Portland, W.S.W., 18, fine, smooth sea, temperature 76°; Cape Otway, S.W., 8, cloudy, sea smooth, temperature 81°; Wilson's Promontory, N.E., 16, cloudy, smooth sea, temperature 65°.

New South Wales.—Menindie, E., clear hot, temperature 87°; Wentworth, N., sultry, temperature 77°; Deniliquin, N.W., 14, fine, clouds about, temperature 85°; Eden, N.E., fresh, fine, smooth sea, temperature 70°; Moruya, N.E., fresh, fine, smooth sea, temperature 76°; Cape St. George, N., light, foggy, like rain, smooth sea, temperature 69°; Sydney, N.E., 20, cloudy, smooth sea; Newcastle, E., moderate, fine, smooth sea, temperature 73°; Port Macquarie, N.E., strong, fine, hazy, moderate sea, temperature 77°; Clarence River, N.E., fresh, fine, temperature 77°; Walgett, calm, hazy, hot, temperature 93°; Dubbo, S., fine, warm, temperature 85°; Goulburn, calm, showery, temperature 72°.

Queensland.—Townsville, S.E., fresh, fine, smooth sea, temperature 83°; Rockhampton, E.N.E., fine; Cape Moreton, N.E., fine, temperature 69°; Boulia, N.E., fine; Blackall, S.E., 14, fine, very hot, temperature 109; Thargomindah, S.W., fine, very hot, temperature 104; Roma, E., 14, fine, temperature 92°.

HEIGHT OF RIVERS ABOVE SUMMER LEVEL.

Macintyre: At Mungindi, stationary, 14ft. Barwon: At Mogil Mogil, stationary, 15ft.; at Walgett, rising, 8ft. Namoi: At Walgett, rising, 7ft. Culgoa: At Goodooga, low. Darling: At Brewarrina, low; at Bourke, low; at Louth, falling, 8in.; at Tilpa, falling, 2ft. 6in.; at Wilcannia, falling, 5ft. 10in.; at Menindie, 11ft. 1in.; at Wentworth, 20ft. 2in. Murrumbidgee: At Gundagai, stationary, 5ft.; at Wagga, 5ft. 6in.; at Hay, rising, 10ft. 9in.; at Balranald, 16ft. 9in. Murray: At Albury, 4ft. 4in.; at Euston, 23ft. 4in.

ASTRONOMICAL MEMORANDA FOR DECEMBER 19.

Sun rises at 4.47, sets at 7.8; Moon, 9.12 a.m., 10.32 p.m. Mercury, 3.45 a.m., 5.50 p.m; Venus, 2.12 a.m., 3.24 p.m.; Mars, 12.32 a.m., 12.40 p.m.; Jupiter, 2.47 a.m., 4.32 p.m.; Saturn, 9.33 p.m., 7.50 a.m. Full moon, 1st; new moon, 15th.

High water at Fort Denison: 11.17 a.m., 11.37 p.m.

H. C. RUSSELL,
Government Astronomer.

Stations.	Wt	Mx	Mn	Rn.
Albury ..	c	94	63	0·04
Armidale	b	87	59	0·44
Balranald	g	87	51	0
Bathurst	u	90	52	0·49
Bendem'r	g	93	62	0·06
Bodalla ..	u	82	61	0·94
Bourke ..	b	109	77	0·01
Bungarra	b	86	30	0
C'md'n H.	b	79	67	0
C. St. Geo.	b	77	61	0·21
Carcoar ..	g	83	61	0·47
Casino ..	b	96	69	0
Cassilis ..	o	87	70	0·46
Clarence .	c	85	77	0
C'nd'b'lin	c	100	59	0·12
Cooma ..	c	91	64	0·57
Coonab'n.	u	95	64	0·60
Cowra ..	g	92	66	1·05
Cudg'llico	g	105	69	0
Deniliq'n.	b	97	59	0
Dubbo ..	r	96	70	1·14
Eden	u	78	65	0·26
Euston ..	c	100	60	0
Forbes ..	o	—	56	0·50
G'ho Isl'nd	c	75	58	0·13
Glen Inn's	b	85	59	0·11
Goulburn	g	92	55	0·93
Grafton ..	h	91	69	0·02
Gulgong .	u	90	50	0·90
Gunned'h	c	95	68	0·39
Hay	c	79	65	0·05
Inverell ..	o	83	64	0·65
Kiandra ..	g	80	37	1·32
Lismore ..	o	92	65	0·05
Maitland .	r	98	65	0·02
M'n'ng H.	b	81	66	0
Marsdens.	c	93	73	0·09
Menindie.	u	97	69	0·05
Molong ..	u	99	62	0·39
M'r'ng'r'll	b	78	65	0·10
Moree ..	h	94	70	0·09
Moruya ..	g	79	63	0·47
Moss Vale	u	84	60	0·45
Mt. Hope	u	102	67	0·06
M. Vict'ria	g	91	54	0·78
Mudgee ..	u	94	56	0·16
M'rr'mb'h	c	87	63	0·60
M'rr'r'ndi	r	85	65	0·40
Mus'lbr'k	r	96	—	1·02
Narrabri	r	97	67	0·51
Newcastle	g	84	65	0
Orange ..	c	86	60	0·40
Picton ..	r	93	63	0·31
P. M'q'rie	h	80	64	0
P. St'ph'n	c	89	54	0
Q'nbeyan	c	91	63	0·48
Quirindi	r	95	49	0·53
Singleton	r	98	71	0·65
SYDNEY ..	r	81	64	0·33
Taralga ..	c	87	55	0·93
Taree	u	91	69	0
T'nt'rfield	b	89	66	0
Wagga ..	b	101	61	0·13
Walcha ..	c	79	51	0·80
Walgett	c	106	70	0·10
Warialda	b	85	65	0
Warrah ..	r	81	66	0
W'ntw'rth	c	95	60	0·24
W'll'ng'ng	o	82	63	0·26
Young ..	g	90	60	0·64

SYDNEY OBSERVATORY

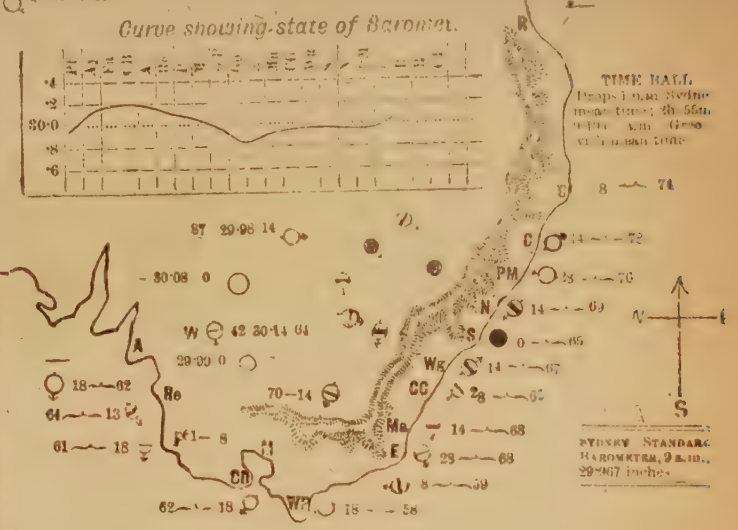
LATITUDE 33° 51' 41" S. LONGITUDE 10h. 4m. 50·8s. E.

MAGNETIC VARIATION, 9° 35' 27" E.

Average Annual Rainfall for 29 years .... 49·490
Average for 29 years from Jan. 1 to Nov. 30 ..... 47·496
Total Rainfall from Jan 1, to Dec. 19 1887 ...... 56·443

Barometers corrected to 32° Fah. and Mean Sea Level.

Fine, wind N. — wind ... T. Storm, wind S. — Rain, wind S. If it is CALM, the symbol used without the arrow. Smooth sea. Heavy sea. Very heavy sea.



NOTES EXPLANATORY OF MAP.

In the list of stations the column headed W.F. gives the state of the weather at 9 a.m., b, standing for blue sky; c, detached clouds, d, drizzling rain; f, fog; g, gloomy; h, hazy; m, misty; n, frosty; o, overcast; p, passing showers; r, rain; s, snow; t, thunder; u, threatening. The next column, Mx gives the maximum temperature for previous 24 hours. Mn the corresponding minimum temperature; Rn, the rain for the previous 24 hours. The symbols used in the map are explained on the margin. At each coast station the wind symbol is placed like a vane pointing to the direction from which the wind is coming. A clear circle with it means fine weather; a circle with bar, cloudy weather; and a black spot, raining. Next to this symbol are placed figures denoting the number of miles the wind is moving per hour; next, a symbol showing the state of the sea, and lastly, figures for the shade temperature at 9 a.m. The barometer curve shows the state of barometer along the coast from Perth to Cooktown: -Pt, Perth; Av, Albany; Ec, Eucla; CB, Cape Borda; A, Adelaide; Re, Robe; P, Portland; M, Melbourne; W P, Wilson's Promontory; Go, Gabo; E, Eden; Ma, Moruya; C G, Jervis Bay; Wg, Wollongong; Sy, Sydney; N, Newcastle; P M, Port Macquarie; C, Clarence River; B, Brisbane; R, Rockhampton; C, Cooktown. [illegible] the state of barometer is given in figures at Albury, Deniliquin, Wentworth, Menindie, Bourke, and Alice Springs. The barometer curve enables one at a glance to trace the depressions, beginning with Western Australia, and passing along eastwards; northerly winds preceding them, and southerly following.

The rainfall on Sundays or holidays, when this map is not published, is in all cases included in the quantities shown by the next following map.

9 A.M. OBSERVATIONS.

Western Australia.—Generally fine and clear; light to fresh S. to E. winds, smooth sea. Extremes of barometers and temperature: Esperance Bay, 30·11; Geraldton, 29·80; Ashburton, 87·; and Albany, 68·.

South Australia.—Generally fine and cool; scattered clouds on parts of the coast and north of Peake; light to fresh S. to S.E. winds; smooth sea. Rainfall: Hergott, 0·54in.; Wilson, 0·26in.; and Gambier, 0·21in. Extremes of barometers and temperature: Cape Borda, 30·16 and 62·; Port Darwin, 29·82 and 87·.

Victoria.—Generally fine, with scattered clouds, in parts cloudy and threatening; light to fresh S.E. to S.W. winds; smooth to moderate sea. Heavy thunderstorms occurred yesterday; rain fell generally; heaviest, 1·20in. at Melbourne and Charlton. Extremes of barometers and temperature: Cape Otway, 30·13; Omeo, 30·01; Horsham, 72·; and Hamilton, 57·.

Tasmania.—Generally fine and clear, light to fresh N. to westerly winds, smooth sea. Extremes of barometers and temperature: Circular Heads, 30.03 and 62·; Falmouth, 29·92; and Hobart, 65·.

New Zealand.—Generally fine, with light N.W. to S.W. winds. Barometers: In north, 30·3; over the centre, 30·1; in south, 29·9.

Queensland.—No reports.

New South Wales.—Fine at places along the borders in north and south; showery in the districts between Sydney and the Hunter River, and beyond the dividing ranges; N.W. from the Hunter Valley. Several stations report rainy weather. Over the remainder of the colony cloudy, gloomy, or threatening weather prevails. Winds are generally light to fresh variable, but chiefly from the S. to S.E. The sea is smooth. Rains have fallen generally, and heavy thunderstorms occurred over most parts of the eastern and central territorial divisions. Extra stations: Temora, heavy storm of wind and rain last night from N.E.; 1.15 inch rain fell. Extremes of barometers and temperature: Wentworth, 30·14; Gabo, 29·82; Bourke, 87·; and Mount Victoria, 59·. Lake Cudjellico, 3 to 6 p.m., heavy thunderstorm; rain, 1·47in. For further particulars see map.

3 P.M. OBSERVATIONS.

South Australia.—Adelaide, E., 18, fine, temperature 70.

Victoria.—Cape Otway, S.W., 24, fine, sea smooth, temperature 64·; Melbourne, S.S.W., 24, fine, temperature 63·; Cape Schanck S.S.W., cloudy, smooth sea, temperature 66·; Wilson's Promontory, W.S.W., 25, fine, moderate sea, temperature 61·; Lakes Entrance, S.W., 32, cloudy, temperature 68·.

New South Wales.—Menindie, S.W., 28, cloudy, and like rain, cool, temperature 79·; Wentworth, S., 14, fine and clear, temperature 76·; Deniliquin, calm, fine, and hot, temperature 81·; Eden, S., 28, fine, smooth sea, temperature 75·; Moruya, S., 42, overcast and gloomy, smooth sea, temperature 68·; Cape St. George, S., 42, dull, like rain, smooth sea, temperature 71·; Sydney, S.S.E., 19, cloudy, unsettled, and cool, moderate sea, temperature 70·; Newcastle, S.E., 14, fine, smooth sea, temperature 73·; Port Macquarie, S.E., 14, cloudy and misty, smooth sea, temperature 81·; Clarence River, N.E., 42, fine, smooth sea, temperature 79·; Walgett, S.E., 14, fine, temperature 92·; Dubbo, S., 42, showery, with thunder, temperature 75·; Goulburn, S.E., 14, dull, temperature 77·.

Queensland.—Townsville, N.E., 18, fine and sultry, temperature 80·; Rockhampton, E., 13, fine, temperature 84·; Cape Moreton, N.E., 13, fine, temperature 80·; Brisbane, N., 8, cloudy, temperature 74·; Hughenden, N.E., cloudy, and very close; Boulia, S.W., 18, cloudy; Blackall, N.E., cloudy and threatening, temperature 99; Thargomindah, W., 13, storm brewing to N.W., temperature 103·.

HEIGHT OF RIVERS ABOVE SUMMER LEVEL.

Macintyre: At Yetman, falling, 2ft.; at Mungindi, falling, 10ft. Barwon: At Mogil Mogil, falling, 11ft.; at Walgett, rising, 13ft. Namoi: At Walgett, falling, 8ft. Culgoa: At Goodooga, low. Darling: At Brewarrina, rising, low; at Bourke, low; at Louth, stationary, 7in.; at Tilpa, stationary, 2ft. 6in.; at Wilcannia, falling, 5ft. 7in.; at Menindie, 11ft.; at Pooncarie, 15ft. 7in. Wentworth, 20ft. 2in. Murrumbidgee: At Gundagai, stationary, 5ft.; at Wagga, 5ft.; at Hay, 10ft. 10in.; at Balranald, 16ft. 9in. Murray: At Albury, 4ft. 2in.; at Euston, 23ft. 6in.

ASTRONOMICAL MEMORANDA FOR DECEMBER 20.

Sun rises at 4.47, sets at 7.9; Moon, 10.9 a.m., 1.9 p.m. Mercury, 3.46 a.m., 5.53 p.m; Venus, 2.12 a.m., 3.25 p.m.; Mars, 12.30 a.m., 12.38 p.m.; Jupiter, 2.44 a.m., 4.29 p.m.; Saturn, 9.29 p.m., 7.46 a.m. Full moon, 1st; new moon, 15th.
High water at Fort Denison: 11.57 a.m., — p.m.

H. C. RUSSELL,
Government Astronomer.

Albury ..	b	92	62	0
Armidale	u	73	61	0·11
Balranald	b	99	63	0
Bathurst	b	81	60	0·20
Bendem'r	c	70	41	0·30
Bodalla ..	g	73	52	0
Bourke .	b	103	74	0
Bundarra	u	90	31	0·10
C'md'n H.	r	79	70	0·52
C.St. Geo.	u	70	57	0
Carcoar..	b	75	51	0·02
Casino ..	b	95	66	0
Cassilis ..	r	79	66	0·09
Clarence .	c	81	70	0
C'nd'b'lin	b	95	51	0·42
Cooma ..	c	83	59	0·84
Coonab'n.	g	84	59	0·61
Cowra ..	b	91	60	0
Cudg'llico	b	84	61	1·59
Deniliq'n.	b	91	54	0
Dubbo ..	b	89	62	0·03
Eden	b	77	56	0
Euston ..	b	91	55	0
Forbes ..	b	—	55	1·06
G'bo Isl'nd	b	65	56	0
Glen Inn's	g	82	52	0·45
Goulburn	g	78	52	0
Grafton ..	c	91	69	0
Gulgong .	u	78	48	0
Gunned'h	c	84	60	0
Hay	b	92	59	0
Inverell. .	c	86	64	0·53
Kiandra. .	g	75	38	0
Lismore. .	b	92	70	0
Maitland .	g	93	67	1·04
M'n'ng H.	c	91	66	1·04
Marsdens.	b	90	68	0·01
Menindie.	b	84	68	0
Molong ..	b	90	56	0·22
M'r'ng'r'll	b	89	62	0·46
Moree ..	g	88	68	0
Moruya. .	b	74	61	0
Moss Vale	r	69	58	0·16
Mt. Hope	b	99	67	0
M. Vict'ria	o	75	52	0·27
Mudgee ..	c	82	57	0·04
M'rr'mb'h	b	85	59	0·14
M'rr'r'ndi	c	77	66	0·20
Mus'lbr'k	c	87	68	0·32
Narrabri	c	96	68	0·32
Newcastle	g	77	65	0·12
Orange ..	b	77	58	0·05
Picton ..	u	80	61	0·07
P. M'q'rie	r	83	65	0·52
P. St'ph'n	c	84	55	0·13
Q'nbeyan	c	81	50	0·08
Quirindi	g	84	65	0·26
Singleton	g	83	70	0·53
SYDNEY ..	g	75	62	0·12
Taralga ..	g	74	55	0
Taree	c	83	70	0·32
T'nt'rfield	u	90	59	0·35
Wagga ..	b	95	58	0
Walcha ..	g	74	55	0·05
Walgett	c	97	50	0
Warialda	c	83	60	0·21
Warrah ..	g	80	63	0·08
W'ntw'rth	b	83	59	0
W'll'ng'ng	c	78	55	0·11
Young ..	b	91	56	0·13

SYDNEY OBSERVATORY.

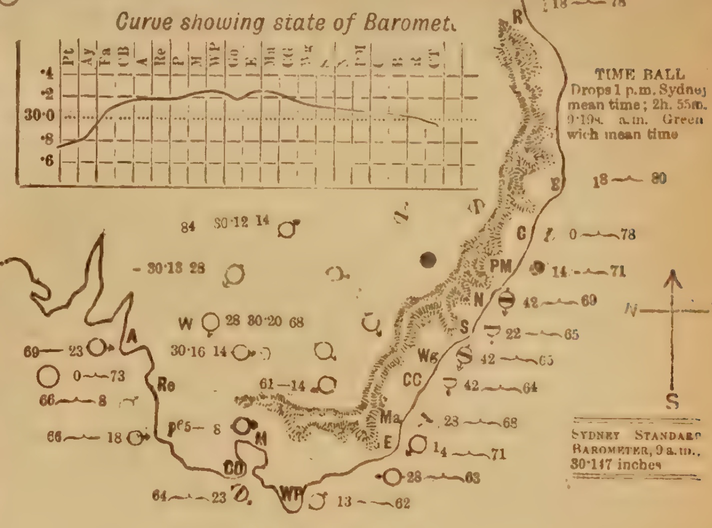
LATITUDE 33° 51' 41" S. LONGITUDE 10h. 4m. 50·81s. E.

MAGNETIC VARIATION, 9° 35' 37" E.

Average Annual Rainfall for 28 years .... 49·489
Average for 29 years from Jan. 1 to Nov. 30 ...... 47·495
Total Rainfall from Jan 1, to Dec. 20 1887 ...... 56·563

Barometers corrected to 32° Fah. and Mean Sea Level

Fine, wind N. — Cloudy, wind E. — T. storm, wind S. — Rain, wind W.
If it is CALM, the symbol used without the arrow.
Smooth sea. Heavy sea. Very heavy sea.



NOTES EXPLANATORY OF MAP.

In the list of stations the column headed W.T. gives the state of the weather at 9 a.m., b, standing for blue sky; c, detached clouds; d, drizzling rain; f, fog; g, gloomy; h, hazy; m, misty; n, frosty; o, overcast; p, passing showers; r, rain; s, snow; t, thunder; u, threatening. The next column, M'x gives the maximum temperature for previous 24 hours; M'n the corresponding minimum temperature; r'n, the rain for the previous 24 hours. The symbols used in the map are explained on the margin. At each coast station the wind symbol is placed like a vane pointing to the direction from which the wind is coming. A clear circle with it means fine weather; a circle with bar, cloudy weather; and a black spot, raining. Next to this symbol are placed figures denoting the number of miles the wind is moving per hour; next, a symbol showing the state of the sea; and, lastly, figures denoting the shade temperature at 9 a.m. The barometer curve shows the state of barometers round the coast from Perth to Cooktown:—Pt, Perth; Ay, Albany; Ea, Eucla; CB, Cape Borda; A, Adelaide; Re, Robe; P, Portland; M, Melbourne; W P, Wilson's Promontory; Go, Gabo; E, Eden, Ma, Moruya; C G, Jervis Bay; Wg, Wollongong; S, Sydney; N, Newcastle; P M, Port Macquarie; C, Clarence River; B, Brisbane; R, Rockhampton, Ct, Cooktown. Inland the state of barometer is given in figures at Albury, Deniliquin, Wentworth, Menindie, Bourke, and Alice Springs. The barometer curve enables one at a glance to trace the depressions, beginning with Western Australia, and passing along eastwards; northerly winds preceding them, and southerly following.

The rainfall on Sundays or holidays, when this map is not published, is in all cases included in the quantities shown by the next following map.

9 A.M. OBSERVATIONS.

Western Australia.—Generally more or less cloudy; at places in south overcast and threatening; light variable winds and calms, smooth sea. Extremes of barometers and temperature: Geraldton, 29·99; Perth, 29·75; Albany, 70°. ; and Ashburton, 85°.

South Australia.—Generally fine and pleasant; light S.E. to E. winds; smooth to moderate sea. Extremes of barometers and temperature: Cape Borda, 30·17 and 66°; Port Darwin, 29·78; and Alice Springs, 88°.

Victoria.—Generally fine, with scattered clouds; light E. to S.E. winds and calms; smooth sea. Extremes of barometers and temperature: Cape Otway, 30·27; Horsham, 30·13; Echuca, 76° and Hamilton, 62°.

Tasmania.—Generally fine, with light variable winds and moderate sea. Extremes of barometers and temperature: Low Heads, 30·28 and 67°; Circular Heads, 30·24; and Southport, 63°.

New South Wales.—Fine west of the mountains; cloudy and gloomy in east; showery at a few scattered places on the coast and mountains. Winds are generally light to fresh S. to easterly; along the coast squally S. to S.W. winds prevail. The sea is smooth to moderate. Light to moderate rains have fallen in the east and central divisions, except in extreme north and south; heaviest on the Upper Lachlan and off the Manning River. Extra stations: Bega, rainfall 0·99in. Extremes of barometers and temperature: Eden, 30·22; Newcastle, 30·10; Bourke, 84°; and Mount Victoria, 53°. For further particulars see map.

New Zealand.—Generally fine; light variable winds. Barometers: In north, 30·4; to south, 30·2.

Queensland.—Generally more or less cloudy; light N.E. to S.E. winds; smooth sea. Thunderstorm and heavy rains have occurred throughout the south; light rains have fallen in north. Extremes of barometers and temperature: Brisbane, 30·08; Normanton, 29·85 and 86°; Rockhampton, 78°.

3 P.M. OBSERVATIONS.

Victoria.—Portland, E.S.E., 34, fine, smooth sea, temperature 66°; Cape Otway, S.E., 18, fine, smooth sea, temperature 68°; Melbourne, S.W., 13, fine, temperature 70°; Cape Schanck, S.E., fine, smooth sea, temperature 66°; Wilson's Promontory, N.E., 18, fine, smooth sea, temperature 63°; Lakes Entrance, N.E., 23, fine, temperature 72°; Omeo, S.W., 18, fine but cloudy, temperature 75°.

New South Wales.—Menindie, calm, cloudy, and dull, temperature 83°; Wentworth, calm, fine, clear, and hot, temperature 90°; Deniliquin, calm, fine, and hot, temperature 85°; Cape St. George, S.E., 42, cloudy and dull, smooth sea, temperature 64°; Sydney, S.S.W., 23, raining, squally, and cold, moderate sea, temperature 70°; Newcastle, S., 28, cloudy and dull, smooth sea, temperature 65°; Port Macquarie, S., 28, cloudy and unsettled, smooth sea, temperature 77°; Clarence River, E., 14, fine, smooth sea, temperature 80°; Walgett, S.E., 14, cloudy, temperature 87°; Dubbo, S.E., 14, fine, temperature 79°; Goulburn, E., 14, cloudy and dull, temperature 70°.

HEIGHT OF RIVERS ABOVE SUMMER LEVEL.

Macintyre: At Mungindi, falling, 8ft. Barwon: At Mogil Mogil, falling, 13ft.; at Walgett, rising, 14ft. Namoi: At Walgett, falling, 7ft. Culgoa: At Goodooga, low. Darling: At Brewarrina, rising, 1ft.; at Bourke, low; at Louth, falling, 6in.; at Tilpa, stationary, 2ft. 6in.; at Wilcannia, falling, 5ft.; at Pooncarie, 15ft. 4in. Wentworth, 20ft. 1in. Murrumbidgee; At Gundagai, stationary, 5ft.; at Wagga, 5ft.; at Hay, falling, 9ft. 9in.; at Balranald, 16ft. 8in. Murray: At Albury, 4ft.; at Euston, 23ft. 10in.

ASTRONOMICAL MEMORANDA FOR DECEMBER 21.

Sun rises at 4.47, sets at 7.9; Moon, 11.5 a.m., 11.41 p.m. Mercury, 3.47 a.m., 5.57 p.m; Venus, 2.11 a.m., 3.27 p.m.; Mars, 12.27 a.m., 12.37 p.m.; Jupiter, 2.40 a.m., 4.26 p.m.; Saturn, 9.25 p.m., 7.41 a.m. Full moon, 1st; new moon, 15th.

High water at Fort Denison: 12.16 a.m., 12.36 p.m.

H. C. RUSSELL,
Government Astronomer.

Stations.	W't	Mx	Mn	Rn.
Albury ..	b	92	64	0
Armidale	b	73	57	0·43
Balranald	b	103	59	0
Bathurst	u	77	58	0
Bendem'r	b	69	40	0·60
Bodalla ..	r	74	61	0·10
Bourke .	c	103	67	1·75
Bundarra	c	90	31	0
C'md'n H.	-	—	—	–
C. St. Geo.	c	70	58	0·26
Carcoar ..	g	75	46	0
Casino ..	b	90	65	0·08
Cassilis ..	o	75	66	0
Clarence .	b	86	69	0
C'nd'b'lin	u	91	51	0
Cooma ..	o	79	55	0
Coonab'n.	b	86	62	0·74
Cowra ..	g	89	66	0
Cudg'llico	c	89	63	0
Deniliq'n.	b	101	63	0
Dubbo ..	b	87	64	0
Eden	g	76	64	0
Euston ..	b	98	60	0
Forbes ..	u	—	54	0
G'bo Isl'nd	c	79	68	0
Glen Inn's	g	75	57	0
Goulburn	g	74	56	0
Grafton ..	b	89	68	0·13
Gulgong .	u	79	48	0
Gunned'h	b	81	67	0·25
Hay	b	95	68	0
Inverell. .	b	80	64	0·27
Kiandra .	g	65	39	0
Lismore .	c	98	69	0·13
Maitland .	b	78	65	0
M'n'ng H.	c	74	65	0·37
Marsdens.	b	88	69	0
Menindie.	b	95	68	0
Molong ..	g	86	62	0
M'r'ng'r'll	g	88	63	0
Moree ..	b	88	66	0
Moruya .	r	73	64	0·14
Moss Vale	u	65	—	0·28
Mt. Hope	b	98	69	0
M. Vict'ria	g	75	52	0·11
Mudgee ..	u	83	57	0
M'rr'mb'h	b	80	64	0
M'rr'r'ndi	b	71	64	0
Mus'lbr'k	b	81	67	0
Narrabri	g	93	68	0
Newcastle	g	79	64	0·01
Orange ..	g	75	58	0
Picton ..	u	70	62	0·31
P. M'q'rie	b	79	65	0·40
P. St'ph'n	c	77	53	0
Q'nbeyan	b	85	50	0
Quirindi	b	87	64	0
Singleton	b	79	67	0
SYDNEY ..	c	70	65	0·30
Taralga ..	c	69	53	0·18
Taree	c	76	62	1·38
T'nt'rfield	u	81	59	0
Wagga ..	b	94	59	0
Walcha ..	o	74	59	0·18
Walgett	g	96	68	0·42
Warialda	b	84	62	0·10
Warrah ..	b	80	65	0
W'ntw'rth	b	94	75	0
W'll'ng'ng	c	70	64	0·22
Young ..	b	86	57	0

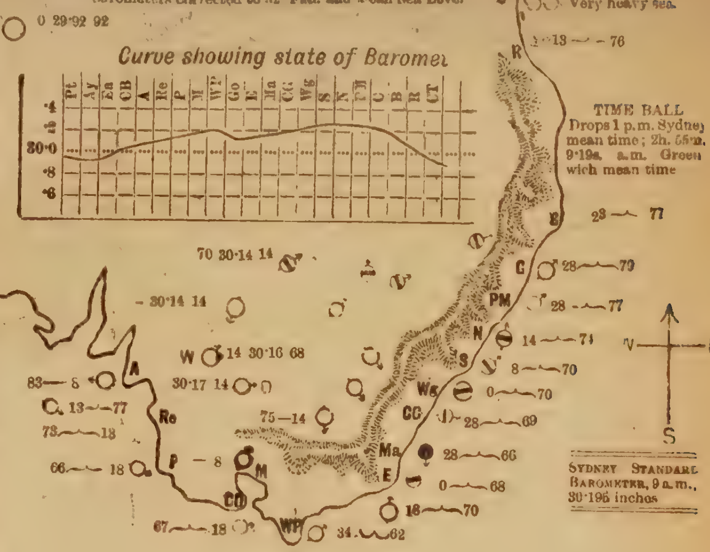
SYDNEY OBSERVATORY

LATITUDE 33° 51' 41" S. LONGITUDE 10h. 4m. 50·81s. E.

MAGNETIC VARIATION, 9° 35' 37" E.

Average Annual Rainfall for 28 years.................40·489
Average for 29 years from Jan. 1 to Nov. 30 .... 47·495
Total Rainfall from Jan 1, to Dec. 21 1887 .... 50·963

Barometers corrected to 32° Fah. and Mean Sea Level



NOTES EXPLANATORY OF MAP.

In the list of stations the column headed W.T. gives the state of the weather at 9 a.m., b, standing for blue sky; c, detached clouds; d, drizzling rain; f, fog; g, gloomy; h, hazy; m, misty; n, frosty; o, overcast; p, passing showers; r, rain; s, snow; t, thunder; u, threatening. The next column, M'x gives the maximum temperature for previous 24 hours; M'n the corresponding minimum temperature; r'n, the rain for the previous 24 hours. The symbols used in the map are explained on the margin. At each coast station the wind symbol is placed like a vane pointing to the direction from which the wind is coming. A clear circle with it means fine weather; a circle with bar, cloudy weather; and a black spot, raining. Next to this symbol are placed figures denoting the number of miles the wind is moving per hour; next, a symbol showing the state of the sea; and, lastly, figures denoting the shade temperature at 9 a.m. The barometer curve shows the state of barometers round the coast from Perth to Cooktown:—Pt, Perth; Ay, Albany; Ea, Eucla; CB, Cape Borda; A, Adelaide. Re, Robe; P, Portland; M, Melbourne; W P, Wilson's Promontory; Go, Gabo; E, Eden; Ma, Moruya; C G, Jervis Bay; Wg, Wollongong, S, Sydney; N, Newcastle; P M, Port Macquarie; C, Clarence River; B, Brisbane; R, Rockhampton; Ct, Cooktown. Inland the state of barometer is given in figures at Albury, Deniliquin, Wentworth, Menindie, Bourke, and Alice Springs. The barometer curve enables one at a glance to trace the depressions, beginning with Western Australia, and passing along eastwards; northerly winds preceding them, and southerly following.

The rainfall on Sundays or holidays, when this map is not published, is in all cases included in the quantities shown by the next following map.

9 A.M. OBSERVATIONS.

Western Australia.—Fine and clear along the west coast; gloomy and sultry in south; light to fresh S.E. to S.W. winds; smooth to moderate sea. Extremes of barometers and temperature: Perth, 29·96; Ashburton, 29·84 and 84°; Albany, 62°.

South Australia.—Generally fine and warm, with increasing temperature; scattered clouds in neighbourhood of Port Augusta; light S.E. to N.E. winds; smooth sea. Thunderstorms occurred during the night between Yam Creek and Port Darwin. Extremes of barometers and temperature: Robe, 30·10 and 64°; Port Darwin, 29·84; and Alice Springs, 92°.

Victoria.—Generally fine, and near the coast hazy; dense fog at Wilson's Promontory, with a rather strong N.E. wind and rather rough sea. Winds generally are light to fresh W.E. to S. E.; smooth sea. Extremes of barometers and temperature: Wilson's Promontory, 30·22 and 62°; Hamilton, 30·07; and Ballarat, 79°.

Tasmania.—Generally fine, with light E. to S.E. winds and calms, and generally smooth sea, though rough off Circular Heads. Extremes of barometers and temperature: Falmouth, 30·31 and 67°; Circular Heads, 30·24; and Hobart, 66°.

New Zealand.—Generally fine, with light S.E. to S.W. winds and calms. Barometers: In north, 30·05; to southward, 30·4.

Queensland.—Generally gloomy or showery; light to fresh N.E. to S.E. winds; smooth sea. Light to heavy rains have fallen over the south—Charleville, 1·07; Blackall, 2·65; and other stations similar quantities. Extremes of barometers and temperature: Brisbane, 30·14; Thursday Island, 29·86 and 85°; Blackall, 68°.

New South Wales.—Fine in S. and S.W. parts; over the remainder of the colony more or less cloudy and unsettled; showery at Moruya and Bodalla; winds are generally light to fresh N.E. to S.E.; the sea is smooth; light rains have fallen east of a line joining Bourke and Cape St. George, but partially; heaviest, 1·75in., at Bourke. Walgett reports having had thunderstorms during the night. Extra stations: Bega, 0·32in., rain this forenoon; and Coonamble, 1·02in. yesterday. Extremes of barometers and temperature: Port Macquarie, 30·24; Albany, 30·09; Wentworth, 83°; and Kiandra, 60°. For further particulars see map.

3 P.M. OBSERVATIONS.

Victoria.—Portland, E.S.E., 18, fine, smooth sea, temperature 70°; Cape Otway, S.E., 28, misty, smooth sea, temperature 69°; Melbourne, S., 13, fine, temperature 82°; Cape Schanck, E.N.E., 13, fine, smooth sea, temperature 66°; Wilson's Promontory, N.E., 18, fine, smooth sea, temperature 66°; Lakes Entrance, E., 13, fine, temperature 79°.

New South Wales.—Menindie, calm, cloudy, and dull, temperature 85°; Wentworth, N.E., 14, fine and hot, temperature 80°; Deniliquin, calm, fine, and hot, temperature 88°; Eden, E.N.E., 14, overcast and showery, light E. sea, temperature 70°; Moruya, N.E., 28, overcast, dull, like rain, smooth sea, temperature 72°; Cape St. George, N.E., 42, showery, moderate sea, temperature 69°; Sydney, N.E., 23, fine, with light clouds, smooth sea, temperature 72°; Newcastle, N.E., 43 fine, smooth sea, temperature 73°; Port Macquarie, N.E., 28 fine and hazy, moderate sea, temperature 78°; Clarence River, N.E., 14, dull, smooth sea, temperature 79°; Walgett, N.E., 14, cloudy, like a thunderstorm, temperature 84°; Dubbo, S., 14, showery, with thunder and lightning, temperature 74°; Goulburn, S.E., 14, dull, temperature 71°.

Queensland.—Townsville, N.E., 18, cloudy and gloomy, slight sea, temperature 82°; Mackay, S.E., 13, fine; Rockhampton, E., 13, fine, but cloudy, temperature 81°; Cape Moreton, E., 23, hazy, temperature 80°; Brisbane, E.S.E., 34, squally and cloudy, temperature 79°; Hughenden, S.E., 18, cloudy and threatening; Blackall, N.E., 13, showery, temperature 74°; Thargomindah, E., 13, showery, temperature 62°.

HEIGHT OF RIVERS ABOVE SUMMER LEVEL.

Macintyre: At Yetman, low; at Mungindi, falling, 8ft. Barwon: At Mogil Mogil, falling, 12ft.; at Walgett, rising, 15ft. Namoi: At Walgett, falling, 67ft. Culgoa: At Goodooga, low. Darling: At Brewarrina, rising, 1ft. 3in.; at Bourke, low; at Louth, rising, 1ft.; at Tilpa, stationary, 2ft. 2in.; at Wilcannia, falling, 4ft. 11in.; at Menindie, 10ft. 3in.; at Pooncarie, falling, 14ft.; at Wentworth, 20ft. 1in. Murrumbidgee: At Gundagai, stationary, 5ft.; at Wagga, 5ft. 6in.; at Hay, falling, 8ft. 5in.; at Balranald, 16ft. 9in. Murray: At Albury, 4ft.; at Euston, 24ft.

ASTRONOMICAL MEMORANDA FOR DECEMBER 22.

Sun rises at 4.46, sets at 7.10; Moon, 11.59 a.m.; Mercury, 3.49 a.m., 6 p.m; Venus, 2.11 a.m., 3.28 p.m.; Mars, 12.24 a.m., 12.35 p.m.; Jupiter, 2.37 a.m., 4.23 p.m.; Saturn, 9.21 p.m., 7.37 a.m. Full moon, 1st; new moon, 15th.

High water at Fort Denison: 12.56 a.m., 1.20 p.m.

H. C. RUSSELL,
Government Astronomer.

METEOROLOGICAL REPORTS AND MAP FOR DECEMBER 23, 1887

Stations.	W.T.	Mx	M'n	R'n.
Albury ..	u	93	71	0
Armidale	u	74	60	0
Balranald	g	100	55	0
Bathurst	o	70	55	0
Bendem'r	c	80	51	-
Bodalla ..	u	72	64	0·25
Bourke	r	80	68	0·60
Bungarra	c	86	—	0
C'md'n H.	c	79	68	0·57
C. St. Geo.	c	69	65	0·09
Carcoar ..	b	70	58	0
Casino ..	c	88	64	0
Cassilis ..	o	75	68	0·16
Clarence .	c	87	70	0·02
C'nd'b'lin	u	86	51	0·90
Cooma ..	c	84	60	0
Coonab'n.	g	86	64	0
Cowra ..	g	82	68	0·02
Cudg'llico	g	73	64	0·24
Deniliq'n.	u	102	67	0
Dubbo ..	c	97	65	0·10
Eden	u	70	66	0·40
Euston ..	g	96	87	0
Forbes ..	g	—	52	0
G'bo Isl'nd	g	74	66	0
Glen Inn's	u	87	57	0
Goulburn	g	76	57	0
Grafton ..	r	86	68	0·02
Gulgong .	u	77	51	0·19
Gunned'h	c	89	68	0
Hay	u	96	69	0·04
Inverell ..	b	81	62	0
Kiandra ..	r	71	60	0·69
Lismore .	b	90	68	0·03
Maitland .	c	78	65	0
M'n'ng H.	b	79	62	0
Marsdens.	c	85	71	0·02
Menindie.	r	92	65	1·70
Molong ..	b	81	58	0·02
M'r'ng'r'll	u	87	69	0
Moree ..	b	89	66	0
Moruya ..	g	77	66	0·19
Moss Vale	u	66	59	0·08
Mt. Hope	u	89	66	0·60
M. Vict'ria	c	71	53	0·38
Mudgee ..	g	62	59	0
M'rr'mb'h	u	80	66	0
M'rr'r'ndi	o	77	64	0·10
Mus'lbr'k	b	90	62	0
Narrabri	g	91	68	0
Newcastle	g	77	65	0
Orange ..	g	69	59	0
Picton ..	o	77	64	0·80
P. M'q'rie	c	83	68	0
P. St'ph'n	o	81	55	0
Q'nbeyan	r	91	54	0
Quirindi	g	86	67	0
Singleton	g	85	68	0·06
SYDNEY ..	g	74	68	0
Taralga ..	c	68	37	0·11
Taree	c	82	67	0
T'nt'rfield	u	77	57	0
Wagga ..	r	95	63	0·11
Walcha ..	u	69	50	0·02
Walgett	u	82	72	0
Warialda	b	82	61	0
Warrah ..	b	83	59	0
W'atw'rth	u	99	70	0
W'll'ng'ag	o	73	63	0·08
Young ..	g	87	62	0·03

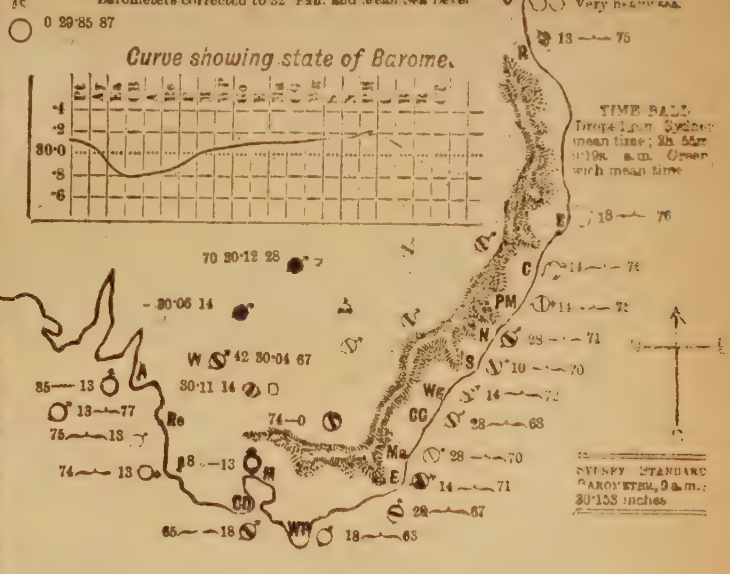
SYDNEY OBSERVATORY.

LATITUDE 33° 51' 41" S. LONGITUDE 10h. 4m. 50·81s. E.

MAGNETIC VARIATION, 9° 35' 37" E.

Average Annual Rainfall for 28 years .... 49·480
Average for 29 years from Jan. 1 to Nov. 30 .... 47·495
Total Rainfall from Jan 1, to Dec. 22 1887 .... 56·865

Barometers corrected to 32° Fah. and Mean Sea Level



Fine. wind N. Cloudy wind E. T. storm. Rain wind S. wind W.
If it is CALM the symbol used without the arrow.
Smooth sea.
Heavy sea.
Very heavy sea.

TIME BALL
Drops 1 p.m. Sydney mean time; 2h. 55m. 19s. a.m. Greenwich mean time

SYDNEY STANDARD BAROMETER, 9 a.m.: 30·153 inches

NOTES EXPLANATORY OF MAP.

In the list of stations the column headed W.T. gives the state of the weather at 9 a.m., b, standing for blue sky; c, detached clouds; d, drizzling rain; f, fog; g, gloomy; h, hazy; m, misty; n, frosty; o, overcast; p, passing showers; r, rain; s, snow; t, thunder; u, threatening. The next column, M'x gives the maximum temperature for previous 24 hours; M'n the corresponding minimum temperature; r'n, the rain for the previous 24 hours. The symbols used in the map are explained on the margin. At each coast station the wind symbol is placed like a vane pointing to the direction from which the wind is coming. A clear circle with it means fine weather; a circle with bar, cloudy weather; and a black spot, raining. Next to this symbol are placed figures denoting the number of miles the wind is moving per hour; next, a symbol showing the state of the sea; and, lastly, figures denoting the shade temperature at 9 a.m. The barometer curve shows the state of barometers round the coast from Perth to Cooktown:—Pt, Perth; Ay, Albany; Ea, Eucla; CB, Cape Borda; A, Adelaide; Re, Robe; P, Portland; M, Melbourne; W P, Wilson's Promontory; Go, Gabo; E, Eden; Ma, Moruya; C G, Jervis Bay; Wg, Wollongong; S, Sydney; N, Newcastle; P M, Port Macquarie; C, Clarence River; B, Brisbane; R, Rockhampton; Ct, Cooktown. Inland the state of barometer is given in figures at Albury, Deniliquin, Wentworth, Menindie, Bourke, and Alice Springs. The barometer curve enables one at a glance to trace the depressions, beginning with Western Australia, and passing along eastwards; northerly winds preceding them, and southerly following.

The rainfall on Sundays or holidays, when this map is not published, is in all cases included in the quantities shown by the next following map.

9 A.M. OBSERVATIONS.

Western Australia.—Generally fine, but at places cloudy and sultry; light to fresh S.E. to S.W. winds; smooth to moderate sea. Extremes of barometers and temperature: Perth, 30·12; Ashburton, 29·85 and 90°; Esperance Bay, 64°.

South Australia.—Generally fine and hot; light N.E. to N. winds; smooth sea. Thunderstorms occurred yesterday at a few places. Rainfall: Roseworthy, 0·70; Gawler, 0·54; Mitcham, 0·59; and Teetulpa, 0·40 inch. Extremes of barometers and temperature: Cape Northumberland, 29·88; Streaky Bay, 29·75; Eucla, 69°; and Port Darwin, 89°.

Victoria.—Generally fine, but sultry and more or less cloudy; in parts threatening; dense fog in the Eastern Straits. Winds are generally light to fresh S.E. to N.E.; the sea is smooth. Extremes of barometers and temperature: Cape Schanck, 30·05; Robe, 29·88; Echuca, 85°; and Wilson's Promontory, 65°.

Tasmania.—Generally fine, but unsettled; light easterly winds and calms. smooth to moderate sea. Extremes of barometers and temperature: Low Heads, 30·12 and 73°; Falmouth, 30·05 and 65°.

New Zealand.—Generally fine, with light variable winds. Barometers: In north, 30·4; over the centre, 30·2; in south, 30·3.

Queensland.—Showery or gloomy throughout, except in N.W. parts, where fine weather prevails. Winds are fresh N.E. to S.E., and the sea moderate. Heavy rains have fallen generally over the southern parts of the colony. Extremes of barometers and temperature: Brisbane, 30·08; Thursday Island, 29·85 and 87°; Roma, 61°.

New South Wales.—Generally cloudy, gloomy, and threatening; showery at places in N.W. and S.E. parts. Winds are generally light to fresh E. to N.E., and the sea smooth. Rains have fallen over most parts of the colony, but scattered; heaviest, 1·70in. at Menindie. Extra station, Bega, 0·17in. rain. Extremes of barometers and temperature: Port Macquarie, 30·21; Wentworth, 30·04; Deniliquin, 79°; and Kiandra, 55°. For further particulars see weather map.

3 P.M. OBSERVATIONS.

Victoria.—Portland, S.E., 18, fine but sultry, smooth sea, temperature 79°; Cape Otway, E., 18, foggy, smooth sea, temperature 71°; Melbourne, N., 13, fine but cloudy and sultry, temperature 83°; Cape Schanck, N.E., 8, gloomy, smooth sea, temperature 72°; Wilson's Promontory, N.E., 18, foggy, moderate sea, temperature 65°; Lakes Entrance, calm, thunderstorm, temperature 77°; Omeo, E., 13, thunderstorm, temperature 70°.

New South Wales.—Menindie, N.E., 14, overcast and showery temperature 75°; Wentworth, N.E., 14, cloudy, temperature 79°; Deniliquin, calm, cloudy, like rain, temperature 84°; Eden, N.E., 42, overcast, like rain, light N.E. sea, temperature 72°; Moruya, N.E., 28, threatening, temperature 73°; Cape St. George, N.E., 42, cloudy moderate N.E. sea, temperature 70°; Sydney, N.E., 20, fine but cloudy smooth sea, temperature 73°; Newcastle, N.E., 42, fine, smooth sea, temperature 72°; Port Macquarie, N.E., 28, cloudy, moderate sea, temperature 75°; Clarence River, N.E., 14, cloudy, smooth sea, temperature 79°; Walgett, S.E., 14, cloudy, temperature 80°; Dubbo, E., 14, fine but cloudy, temperature 77°; Goulburn, E.N.E., 14, dull, temperature 71°.

Queensland.—Rockhampton, E., 8, raining, temperature 76°; Cape Moreton, N.E., 28, cloudy and squally, temperature 76°; Brisbane, E., 18, cloudy, temperature 76°; Blackall, S.E., 18, cloudy, temperature 81°; Thargomindah, E., 13, overcast, temperature 91°.

HEIGHT OF RIVERS ABOVE SUMMER LEVEL.

Macintyre: At Yetman, low; at Mungindi, falling, 7ft. Barwon: At Mogil Mogil, falling, 8ft.; at Walgett, rising, 15ft. 6in. Namoi: At Walgett, falling, 5ft. Culgoa: At Goodooga, low. Darling: At Brewarrina, rising, 2ft.; at Bourke, low; at Louth, rising, 1ft. 6in.; at Tilpa, stationary, 2ft. 6in.; at Wilcannia, falling, 5ft. 10in.; at Menindie, 10ft. 3in.; at Pooncarie, 14ft. 6in.; at Wentworth, 20ft. 1in. Murrumbidgee: At Gundagai, stationary, 5ft.; at Wagga, 5ft. 9in.; at Hay, falling, 7ft.; at Balranald, 16ft. 8in. Murray: At Albury, 4ft.; at Euston, 24ft. 1in.

ASTRONOMICAL MEMORANDA FOR DECEMBER 23.

Sun rises at 4.48, sets at 7.10; Moon, 12.52 p.m., 2.15 a.m.; Mercury, 3.51 a.m., 6.4 p.m; Venus, 2.11 a.m., 3.30 p.m.; Mars, 12.22 a.m., 12.33 p.m.; Jupiter, 2.34 a.m., 4.20 p.m.; Saturn, 9.17 p.m., 7.32 a.m. Full moon, 1st; new moon, 15th.

High water at Fort Denison: 1.43 a.m., 2.10 p.m.

H. C. RUSSELL,
Government Astronomer.

Stations.	W.T.	Mx	m	Rn.
Albury ..	r	82	68	0·23
Armidale	u	76	60	0·66
Balranald	b	86	53	0·24
Bathurst	o	78	59	0
Bendem'r	r	78	53	0·35
Bo lalia ..	g	77	65	0
Bourke ..	u	76	67	0·45
Bundarra	u	68	—	0·25
C'md'n H.	b	77	67	0
C. St. Geo.	b	75	66	0
Carcoar ..	u	75	51	0
Casino ..	c	83	65	0
Cassilis ..	o	80	68	0
Clarence .	r	87	66	0·02
C'nd'b'lin	u	83	53	0
Cooma ..	c	82	60	0·03
Coonab'n.	r	85	64	0·23
Cowra ..	b	81	71	0·05
Cudg'llico	c	74	68	0·05
Deniliq'n.	g	94	—	0·63
Dubbo ..	r	95	67	0·09
Eden	f	74	66	0
Euston ..	c	92	64	1·20
Forbes ..	b	—	58	0
G'bo Isl'nd	o	73	66	0
Glen Inn's	u	79	59	0·04
Goulburn	b	73	60	0
Grafton ..	o	82	62	0
Gulgong .	u	80	51	0
Gunned'h	o	87	73	0
Hay	c	86	68	0·58
Inverell .	r	81	65	0·07
Kiandra .	r	75	44	0·82
Lismore .	r	81	69	0
Maitland .	g	91	65	0
M'n'ng H.	b	75	62	0
Marsdens.	b	79	72	0·08
Menindie.	b	83	68	0·38
Molong ..	g	79	61	0
M'r'ng'r'll	o	81	67	0·12
Moree ..	g	89	66	0
Moruya ..	g	78	68	0
Moss Vale	o	71	60	0

SYDNEY OBSERVATORY.

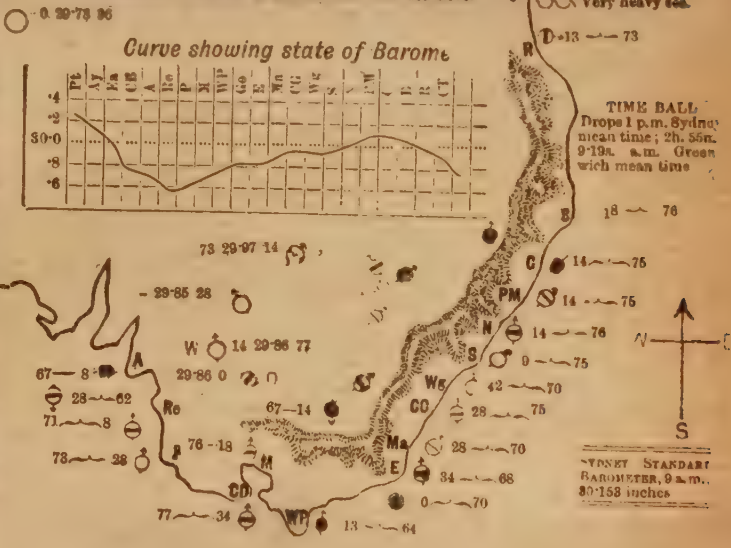
LATITUDE 33° 51′ 41″ S. LONGITUDE 10h. 4m. 50·51s. E.

MAGNETIC VARIATION, 9° 35′ 37″ E.

Average Annual Rainfall for 28 years .... 49·469
Average for 29 years from Jan. 1 to Nov. 30 .. .. 47·495
Total Rainfall from Jan 1, to Dec. 22 1887 ...... 56·865

Barometers corrected to 32° Fah. and Mean Sea Level

Fine, wind N. Cloudy wind F. T. storm, wind S. Rain, wind D.
If it is CALM, the symbol used without the arrow.
Smooth sea.
Heavy sea.
Very heavy sea.



TIME BALL.
Drops 1 p.m. Sydney mean time; 2h. 55m. 9·19s. a.m. Greenwich mean time.

SYDNEY STANDARD BAROMETER, 9 a.m., 30·158 inches

Stations.	W.T.	Mx	m	Rn.
Mt. Hope	u	79	66	0
M. Vict'ria	b	77	55	0
Mudgee ..	u	83	60	0
M'rr'mb'h	c	78	67	0·11
M'rr'r'ndi	r	76	65	0
Mus'lbr'k	b	85	64	0
Narrabri	u	95	63	0·08
Newcastle	c	77	65	0
Orange ..	c	77	61	0·02
Picton ..	o	74	66	0
P. M'q'rie	c	79	65	0·45
P. St'ph'n	c	91	60	0
Q'nbeyan	c	92	56	0
Quirindi	u	88	66	0
Singleton	c	86	67	0
SYDNEY ..	b	75	67	0
Taralga ..	g	82	58	0
Taree	b	88	64	0·02
Tent'rfield	u	72	60	0·12
Wagga ..	g	80	61	0·22
Walcha ..	r	70	50	0·02
Walgett	g	85	67	0·85
Warialda	c	86	64	0·01
Warrah ..	r	83	66	0·04
W'ntw'rth	b	86	69	0·02
W'll'ng'ag	o	79	67	0
Young ..	g	82	62	0·62

NOTES EXPLANATORY OF MAP.

In the list of stations the column headed W.T. gives the state of the weather at 9 a.m., b, standing for blue sky; c, detached clouds, d, drizzling rain; f, fog; g, gloomy; h, hazy; m, misty, n, frosty; o, overcast; p, passing showers; r, rain; s, snow; t, thunder; u, threatening. The next column, M'x gives the maximum temperature for previous 24 hours; M'n the corresponding minimum temperature; r'n, the rain for the previous 24 hours. The symbols used in the map are explained on the margin. At each coast station the wind symbol is placed like a vane pointing to the direction from which the wind is coming. A clear circle with it means fine weather; a circle with bar, cloudy weather; and a black spot, raining. Next to this symbol are placed figures denoting the number of miles the wind is moving per hour; next, a symbol showing the state of the sea; and, lastly, figures denoting the shade temperature at 9 a.m. The barometer curve shows the state of barometers round the coast from Perth to Cooktown:—Pt, Perth; Ay, Albany; Ea, Eucla; CB, Cape Borda; A, Adelaide; Re, Robe; P, Portland; M, Melbourne; W P, Wilson's Promontory; Go, Gabo; E, Eden; Ma, Moruya; C G, Jervis Bay; Wg, Wollongong, S, Sydney; N, Newcastle; P M, Port Macquarie; C, Clarence River; B, Brisbane; R, Rockhampton; Ct, Cooktown. Inland the state of barometer is given in figures at Albury, Deniliquin, Wentworth, Menindie, Bourke, and Alice Springs. The barometer curve enables one at a glance to trace the depressions, beginning with Western Australia, and passing along eastwards; northerly winds preceding them, and southerly following.

The rainfall on Sundays or holidays, when this map is not published, is in all cases included in the quantities shown by the next following map.

9 A.M. OBSERVATIONS.

Western Australia.—Generally fine and clear; sultry at the N.W. Cape; squally off the Gascoyne River; fresh S.E. to S.W. winds; smooth to moderate sea. Extremes of barometers and temperature: Perth, 30·23; Ashburton, 29·84 and 86°; Albany, 61°.

South Australia.—Generally overcast, gloomy, and threatening south of Port Augusta, with light to fresh W. to S.W. winds. Fine and hot, with fresh N.E. to N. winds thence to Port Darwin. Thunderstorms have occurred in S.E. parts. Extremes of barometers and temperature: Eucla, 29·90 and 65°; Cape Northumberland, 29·84; and Alice Springs, 96°.

Victoria.—Generally cloudy and sultry, and in parts showery, with strong northerly winds, and lightning and thunder. Sea smooth to moderate. Rain has fallen generally; heaviest 0·50 at Echuca and Sandhurst. Extremes of barometers and temperature: Echuca, 29·79; Portland, 29·58; Horsham, 77°; and Wilson's Promontory, 64°.

Tasmania.—Generally cloudy and unsettled; light to fresh N. to N.E. winds; smooth to moderate sea. Extremes of barometers and temperature: Low Heads, 29·74; Southport, 29·60; Hobart, 78°; and Falmouth, 64°.

New Zealand.—Generally fine, with light S. to W. winds. Barometers: In north and south, 30·3; over the centre, 30·2..

Queensland.—Generally gloomy and showery, except in the far west, where fine weather prevails. Fresh N.W. to N.E. winds; smooth to moderate sea. Heavy rains have fallen on parts of the Curtis and on the Wide Bay districts; light rains have fallen on the Darling Downs. Extremes of barometers and temperature: Brisbane, 30·01; Normanton, 29·82 and 87°; Rockhampton, 73°.

New South Wales.—Generally cloudy, gloomy, and threatening rain, except at a few places on the central coast districts and on the lower Darling, where it is fine. Nine scattered stations report rainy weather. Winds are generally light to fresh N.E., to northerly. The sea is smooth to moderate. During the last 24 hours rain fell generally over the colony except in south and central coast districts; the heaviest fall occurred at Euston, viz., 1·20 inch. Extremes of barometers and temperature: Clarence, 30·06; Gabo, 29·81; Deniliquin, 79°; and Kiandra, 57°. For further particulars see map.

3 P.M. OBSERVATIONS.

Victoria.—Cape Otway, S., 8, cloudy and gloomy, smooth sea, temperature 76°; Melbourne, N., 18, cloudy and gloomy, temperature 80°; Cape Schanck, N., 34, cloudy and squally, smooth sea, temperature 73°; Wilson's Promontory, N.N.E., 13, cloudy, moderate sea, temperature 78°; Lakes Entrance, E., 18, cloudy, temperature 77°; Omeo, N., 18, cloudy, temperature 76°.

New South Wales.—Menindie, calm, cloudy, and hot, temperature 81°; Wentworth, N.W., 14, dull and close, temperature 75°; Deniliquin, N., 14, fine, but cloudy and sultry, temperature 84°; Eden, N.E., 28, overcast, light east sea, temperature 74°; Cape St. George, N., 42, cloudy, like a storm, moderate sea, temperature 70°; Sydney, N.E., 19, fine but unsettled, moderate sea, temperature 75°; Newcastle, N.E., 14, fine, smooth sea, temperature 71°; Port Macquarie, N.N.E., 42, hazy, moderate sea, temperature 78°; Clarence River, N.E., 14, dull, smooth sea, temperature 76°; Walgett, S.W., 14, cloudy, like thunderstorm, temperature 84°; Dubbo, N., 14, fine, but cloudy, temperature 78°; Goulburn, N.W. 14, overcast, temperature 77°.

Queensland.—Townsville, S.E., 18, sultry, moderate sea, temperature 83°; Mackay, E., 8, fine, but cloudy; Rockhampton, E.N.E., 18, cloudy, temperature 79°; Cape Moreton, E.N.E., 23, fine, but cloudy, temperature 75°; Brisbane, N.E., 8, raining lightly, temperature 76°; Boulia, N.W., 18, fine; Blackall, N.E., 8, cloudy and warm, temperature 98°; Thargomindah, S., 18, fine, temperature 92°; Roma, N.E., 8, fine, but cloudy and sultry, temperature 90°.

HEIGHT OF RIVERS ABOVE SUMMER LEVEL.

Macintyre: At Yetman, low; at Mungindi, falling, 6ft. **Barwon:** At Mogil Mogil, falling, 6ft.; at Walgett, rising, 16ft.; **Namoi:** At Walgett stationary, 4ft. 10in. **Culgoa:** At Goodooga, low. **Darling:** At Brewarrina, rising, 2ft. 3in; at Bourke, low; at Louth, stationary, 1ft. 7in.; at Tilpa, stationary, 2ft. 6in.; at Wilcannia, falling, 4ft. 9in.; at Menindie, falling, 9ft. 8in.; at Pooncarie, 14ft.; at Wentworth, 20ft. 1in. **Murrumbidgee:** At Gundagai, stationary, 5ft.; at Wagga, 6ft. 9in.; at Hay, falling, 6ft. 11in.; at Balranald, 16ft. 8in. **Murray:** At Albury, 3ft. 6in.; at Euston, 22ft. 2in.

ASTRONOMICAL MEMORANDA FOR DECEMBER 24.

Sun rises at 4.49, sets at 7.11; Moon, 1.44 p.m., 12.44 a.m. Mercury, 3.52 a.m., 6.7 p.m; Venus, 2.10 a.m., 3.31 p.m.; Mars, 12.19 a.m., 12.51 p.m.; Jupiter, 2.30 a.m., 4.17 p.m.; Saturn 9.18 p.m., 1.28 a.m. Full moon, 1st; new moon, 13th. High water at Fort Denison: 2.37 a.m., 3.5 p.m.

H. C. RUSSELL,
Government Astronomer.

METEOROLOGICAL REPORTS AND MAP FOR DECEMBER 24, 1887.

Stations.	W.T.	Mx	M'n	R'n
Albury ..	u	83	68	0·52
Armidale	b	71	58	0·62
Balranald	g	101	58	0
Bathurst	u	79	62	0·22
Bendem'r	u	76	46	0·08
Bodalla ..	b	79	46	0·04
Bourke ..	b	89	70	0
Bundarra	u	88	—	0
C'md'n H.	b	79	70	0
C. St. Geo.	b	76	66	0·14
Carcoar ..	u	77	55	0·17
Casino ..	c	86	62	0
Cassilis ..	o	78	69	0·08
Clarence .	c	82	69	0·02
C'nd'b'lin	b	91	55	0
Cooma ..	c	82	58	0·90
Coonab'n.	g	81	65	0·13
Cowra ..	u	—	69	0·41
Cudg'llico	g	80	39	0
Deniliq'n.	u	90	59	0
Dubbo ..	b	86	65	0·38
Eden	b	73	66	0·13
Euston ..	g	95	56	0·14
Forbes ..	g	—	55	0·08
G'bo Isl'nd	r	73	64	0·13
Glen Inn's	u	74	60	0·03
Goulburn	b	88	55	0·42
Grafton ..	b	87	55	0·05
Gulgong .	u	78	46	0
Gunned'h	—	—	—	—
Hay	r	92	61	0·05
Inverell ..	c	78	67	0·16
Kiandra ..	r	67	45	1·70
Lismore ..	c	84	67	0·04
Maitland .	b	84	62	0·08
M'n'ng H.	b	78	61	0
Marsdens.	c	84	72	0
Menindie.	r	90	59	3·15
Molong ..	g	75	61	0·21
M'r'ng'r'll	b	83	68	0
Moree ..	u	80	67	0·06
Moruya ..	o	79	67	0·17
Moss Vale	c	77	63	0·18
Mt. Hope	b	85	66	0
Mt. Vict'ria	b	84	56	0
Mudgee ..	u	83	61	0·55
M'rr'mb'h	c	82	66	0·19
M'rr'r'ndi	c	77	67	0·47
Mus'lbr'k	b	88	64	0
Narrabri	u	87	70	0·06
Newcastle	b	82	66	0·07
Orange ..	g	77	64	0·13
Picton ..	b	82	63	0
P. M'q'rie	b	80	66	0
P. St'ph'n	b	89	62	0
Q'nbeyan	o	85	65	0·12
Quirindi	b	82	68	0·34
Singleton	b	88	69	0
SYDNEY ..	b	82	69	0
Taralga ..	c	72	61	0·46
Taree	b	86	67	0·01
T'nt'rfield	o	77	61	0·35
Wagga ..	c	91	65	0·02
Walcha ..	o	71	54	0·11
Walgett	b	90	69	0
Warialda	c	81	64	0·14
Warrah ..	g	76	63	0·23
W'ntw'rth	c	95	59	0·02
W'll'ng'ng	b	77	67	0
Young ..	u	84	63	0·11

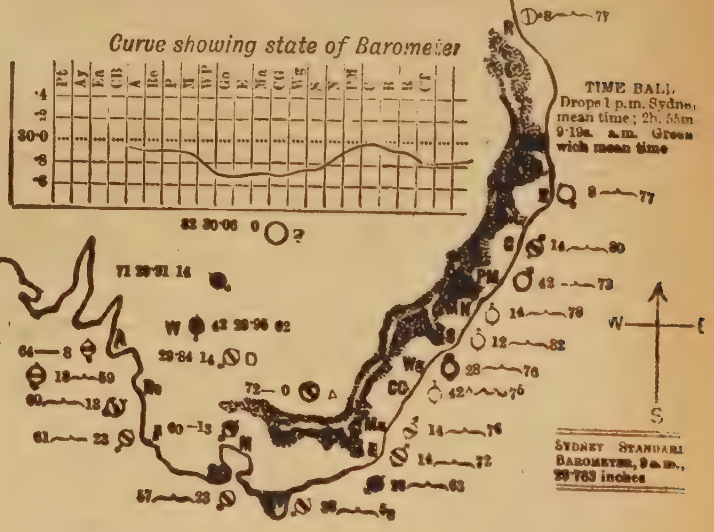
SYDNEY OBSERVATORY.

LATITUDE 33° 51' 41" S. LONGITUDE 10h. 4m. 50·81s. E.
MAGNETIC VARIATION, 9° 35' 37" E.

Average Annual Rainfall for 28 years .... 49·489
Average for 29 years from Jan. 1 to Nov. 30 .... 47·495
Total Rainfall from Jan 1, to Dec. 24 1887 .... 56·865

Barometers corrected to 32° Fah. and Mean Sea Level

Fine, wind N. — Cloudy, wind E. — T. storm, wind S. — Rain, wind W.
If it is CALM, the symbol used without the arrow.
Smooth sea.
Heavy sea.
Very heavy sea.



NOTES EXPLANATORY OF MAP.

In the list of stations the column headed W.T. gives the state of the weather at 9 a.m., b, standing for blue sky; c, detached clouds; d, drizzling rain; f, fog; g, gloomy; h, hazy; m, misty; n, frosty; o, overcast; p, passing showers; r, rain; s, snow; t, thunder; u, threatening. The next column, M'x gives the maximum temperature for previous 24 hours; M'n the corresponding minimum temperature; r'n, the rain for the previous 24 hours. The symbols used in the map are explained on the margin. At each coast station the wind symbol is placed like a vane pointing to the direction from which the wind is coming. A clear circle with it means fine weather; a circle with bar, cloudy weather; and a black spot, raining. Next to this symbol are placed figures denoting the number of miles the wind is moving per hour; next, a symbol showing the state of the sea; and, lastly, figures denoting the shade temperature at 9 a.m. The barometer curve shows the state of barometers round the coast from Perth to Cooktown:—Pt, Perth; Ay, Albany; Ea, Eucla; CB, Cape Borda; A, Adelaide; Re, Robe; P, Portland; M, Melbourne; W P, Wilson's Promontory; Go, Gabo; E, Eden; Ma, Moruya; C G, Jervis Bay; Wg, Wollongong; S, Sydney; N, Newcastle; P M, Port Macquarie; C, Clarence River; B, Brisbane; R, Rockhampton; Ct, Cooktown. Inland the state of barometer is given in figures at Albury, Deniliquin, Wentworth, Menindie, Bourke, and Alice Springs. The barometer curve enables one at a glance to trace the depressions, beginning with Western Australia, and passing along eastwards; northerly winds preceding them, and southerly following.

The rainfall on Sundays or holidays, when this map is not published, is in all cases included in the quantities shown by the next following map.

9 A.M. OBSERVATIONS.

Western Australia.—No telegrams.

South Australia.—Reports are very incomplete, but show overcast, gloomy, and threatening weather south of Port Augusta, with light south to south-westerly winds and smooth to moderate sea. Extremes of barometers and temperature: Cape Borda, 29·98 and 59·; Cape Northumberland, 29·86, and Adelaide, 64·.

Victoria.—Generally cloudy and unsettled. A few scattered stations report thunderstorms last night. Winds are generally light to fresh W. to S.W. Extremes of barometers and temperature: Ballarat, 29·92; Wilson's Promontory, 29·76; Horsham, 71·; and Cape Otway, 57·.

Tasmania.—Fine in north-east, cloudy in north-west and south-east. Light to fresh N. to W. winds, and smooth to moderate sea. Low Heads reports heavy thunderstorm last night. Extremes of barometers and temperature: Circular Head, 29·68 and 65·; Hobart, 29·56; and Low Heads, 60·.

New Zealand.—No telegrams.

Queensland.—In north parts fine but cloudy, with light N. E. winds and calms. In south, overcast generally, except in extreme west. During the past 24 hours heavy showers have fallen along the coast; heaviest rainfall at Durringa, [illegible] inches. Extremes of barometers and temperature: Brisbane, 29·91 and 77·; Normanton, 29·78 and 87·.

New South Wales.—Cloudy and gloomy weather generally prevails, except at a few scattered stations in the Eastern division, where it is fine. Four scattered stations report showery weather. Winds are generally light to fresh N.E. to northerly and N.W. During the past 24 hours rain has fallen generally, the heaviest being at Menindie, viz., 3·15 inch. The sea is smooth to moderate generally, but rough off Cape St. George. Extremes of barometers and temperature: Walgett, 30·06; Eden, 29·61; Bourke, 82·; and Deniliquin, 64·. Bega, rain, 0·64. For further particulars see map.

3 P.M. OBSERVATIONS.

Victoria.—Portland, W.S.W. 40, cloudy, smooth sea, temperature 65·; Cape Otway, N.N.W., 8, cloudy, sea rising, temperature 61·; Wilson's Promontory, W., 32, threatening rain, moderate sea, temperature 61·.

New South Wales.—Menindie, S.E., 14, raining; Wentworth, raining; Deniliquin, calm, cloudy, temperature 77·; Eden, S.W., 28, overcast, raining, smooth sea, temperature 66·; Moruya, [illegible] 42, cloudy, gloomy, moderate sea, temperature 65·; Cape St. George, N., 28, cloudy, moderate sea, temperature 81·; Sydney, N.E., 20, cloudy; Port Macquarie, N.N.E., 42, fine, moderate sea; Clarence River, N.E., fine, smooth sea, temperature 77·; Dubbo, N., 14, fine, temperature 78·; Goulburn, N.W., cloudy, dull, temperature 79·.

Queensland.—Mackay, E., 42, fine; Rockhampton, E., 4[illegible], fine, cloudy, temperature 81·; Cape Moreton, N.E., 23, temperature 80·; Hughenden, calm, cloudy, close; Boulia, N.W., 40; Blackall, N.W., 8, cloudy; Thargomindah, N.E., 28, like storm to west; Roma, N.E., 16, temperature 85·.

HEIGHT OF RIVERS ABOVE SUMMER LEVEL.

Macintyre: At Yetman low. Barwon: At Mogil Mogil, falling, 4ft.; at Walgett, stationary, 16ft. Namoi: At Walgett, stationary, 4ft. 10in. Culgoa: At Goodooga, low. Darling: At Brewarrina, rising, 3ft.; at Bourke, rising, 2ft.; at Louth, stationary, 1ft. 7in.; at Tilpa, stationary, [illegible] 6in.; at Wilcannia, [illegible] 4ft. 8in., at Menindie, falling, 9ft. [illegible]; at Pooncarie, falling, 15ft. 8in.; at Wentworth, 20ft. 2in. Murrumbidgee: At Gundagai, falling, [illegible]; at Wagga, falling 6ft.; at Hay, falling 6ft. 9in.; at Balranald, 16ft. 5in. Murray: At Albury, [illegible], at [illegible], 22ft. 2in.

ASTRONOMICAL MEMORANDA FOR DECEMBER 25.

Sun rises at 4.50, sets at 7.11; Moon, 3.[illegible] p.m., 1.14 a.m.; Mercury, 3.56 a.m., 6.14 p.m.; Venus, 2.[illegible] a.m., [illegible] p.m., Mars, 12.14 a.m., 12.28 p.m.; Jupiter, 2.24 a.m., [illegible] p.m., Saturn, 9.5 p.m., [illegible] a.m. [illegible] moon 1st, new moon 15th.

High water at Fort Denison, 4.43 a.m., 5.13 p.m.

H. C. RUSSELL.

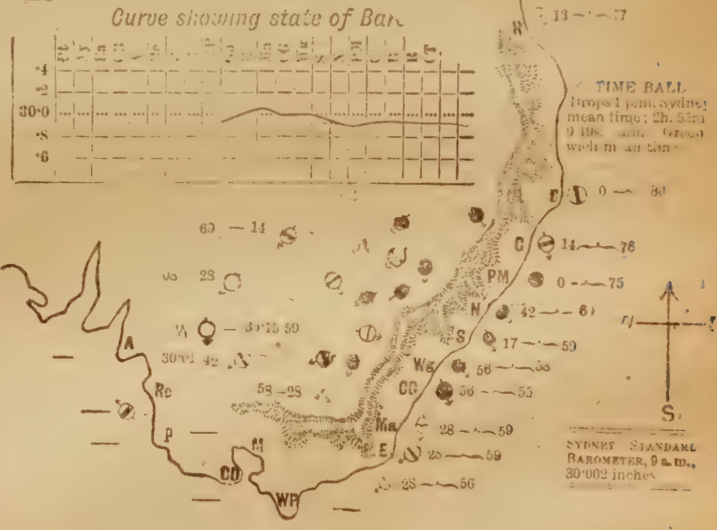
SYDNEY OBSERVATORY.

LATITUDE 33° 51' 41" S. LONGITUDE 10h. 4m. 50·81s. E.

MAGNETIC VARIATION. 9° 3? ?7" E.

Average Annual Rainfall for 28 years .... 46·4?
Average for 29 years from Jan. 1 to Nov. 30 .... 47·405
Total Rainfall from Jan. 1, to Dec. 26 1887 .... 53·179.
Barometer corrected to 32° Fah. and Mean Sea Level.

Stations.	W.	Mx.	Mn.	Rn.
Albury	c	77	59	0·15
Armidale	r	85	62	3·75
Balranald	c	89	52	0
Bathurst	r	82	55	1·04
Bendem'r	r	84	51	0·77
Bodalla	–	–	–	–
Bourke	c	84	60	0
Buncarra	r	85	–	1·40
C'md'n H.	–	–	–	–
C. St. Geo.	r	66	56	1·39
Carcoar	r	77	46	2·95
Casino	c	–	–	0
Cassilis	[illegible]	[illegible]	62	2·75
Clarence	c	85	71	0
C'nd'b'lin	r	91	46	2·62
Cooma	c	74	48	0·22
Coonab'n.	r	93	65	1·29
Cowra	r	–	62	2·36
Cudg'llico	r	96	53	1·82
Deniliq'n.	u	80	49	0·09
Dubbo	r	86	62	3·77
Eden	g	60	56	0·55
Euston	b	82	51	0
Forbes	g	–	51	3·61
G'bo Isl'nd	c	67	57	0
Glen Inn's	r	87	60	0·25
Goulburn	r	65	50	1·53
Grafton	u	99	75	0
Gulgong	r	87	46	3·40
Gunned'h	–	–	–	–
Hay	r	74	51	0·39
Inverell	u	87	70	0
Kiandra	c	67	39	1·10
Lismore	c	96	73	0
Maitland	r	99	60	1·94
M'n'ng H.	c	87	66	1·18
Marsdens.	c	81	66	2·94
Menindie.	b	62	56	1·43
Molong	u	75	56	2·03
M'r'ng'r'll	c	83	61	1·76
Moree	u	93	67	2·84
Moruya	g	67	56	0·28
Moss Vale	–	–	–	–
Mt. Hope	r	62	51	2·32
M. Vict'ria	r	84	54	1·80
Mudgee	r	86	54	2·56
M'r'mb'h	c	82	59	1·56
M'rr'r'ndi	r	87	67	2·80
Mus'lbr'k	r	99	58	2·15
Narrabri	u	99	23	0·90
Newcastle	r	74	56	2·21
Orange	g	69	54	2·90
Picton	r	63	56	1·10
P. M'q'rie	r	80	66	1·18
P. St'ph'n	r	92	62	2·55
Q'nbeyan	r	85	49	0·80
Quirindi	r	89	63	2·98
Singleton	r	93	62	2·90
SYDNEY	r	70	59	1·61
Taralga	r	83	56	1·80
Taree	–	–	–	–
T'nt'rfield	c	88	63	0·48
Wagga	c	91	55	0·49
Walcha	r	78	54	1·75
Walgett	–	–	–	–
Warialda	c	94	64	0·66
Warrah	–	–	–	–
W'ntw'rth	b	77	51	0·14
W'll'ng'ng	r	67	57	1·75
Young	g	75	56	2·44



NOTES EXPLANATORY OF MAP.

In the list of stations the column headed W. f. g.ves the state of the weather at 9 a.m., b, standing for blue sky; c, detached clouds, d, drizzling rain; f, fog; g, gloomy; h, hazy; m, misty; n, frosty; o, overcast; p, passing showers, r, rain; s, snow; t, thunder; u, threatening. The next column, Mx, gives the maximum temperature for previous 24 hours; Mn the corresponding minimum temperature, Rn, the rain for the previous 24 hours. The symbols used in the map are explained on the margin. At each coast station the wind symbol is placed like a vane pointing to the direction from which the wind is coming. A clear circle with it means fine weather, a circle with bar, cloudy weather; and a black spot, raining. Next to this symbol are placed figures denoting the number of miles the wind is moving per hour; next, a symbol showing the state of the sea; and, lastly, figures denoting the shade temperature at 9 a.m. The barometer curve shows the state of barometers round the coast from Perth to Cooktown:—Pt, Perth; Ay, Albany; Ea, Eucla; CB, Cape Borda; A, Adelaide, Re, Robe; P, Portland; M, Melbourne, W P, Wilson's Promontory; Go, Gabo; E, Eden, Ma, Moruya; C G, Jervis Bay; Wg, Wollongong, S, Sydney, N, Newcastle, P M, Port Macquarie; C, Clarence River; B, Brisbane, Ct, Cooktown. Inland the state of barometer is given in figures at Albury, Deniliquin, Wentworth, Menindie, Bourke, and Alice Springs. The barometer curve enables one at a glance to trace the depressions, beginning with Western Australia, and passing along eastwards; northerly winds preceding them, and southerly following.

The rainfall on Sundays or holidays, when this map is not published, is in all cases included in the quantities shown by the next following map.

9 A.M. OBSERVATIONS.

Queensland.—Fine in central parts, cloudy in north and south; light S.W. to S.E. and N.E. winds, and smooth to moderate sea. Light rain has fallen at a few scattered places. Extremes of barometers and temperature: Townsville, 30·01; Brisbane, 29·84; Normanton, 85°; and Thargomindah, 63°.

New South Wales.—Generally cloudy, gloomy and showery, except in extreme S.W., where it is fine; light to fresh S.E. to S.W. winds, and smooth to moderate sea, but rising fast off Newcastle. During the past 48 hours rain has fallen generally, except in the extreme N.E. and S.W. parts; the heaviest being in the east and central divisions. Walcha had a thunderstorm from west this morning. Extra stations: Camden, raining, 3·71 inches rain fallen; Coonamble, cloudy, 3·27 inches rain fallen. Extremes of barometers and temperature: Wentworth, 30·15; Port Macquarie, 29·86; Lismore, 78°; and Kiandra, 43°. (For further particulars see map.)

3 P.M. OBSERVATIONS.

New South Wales.—Sydney, S.E., 14, cloudy, raining all forenoon, temperature 63°.

HEIGHT OF RIVERS ABOVE SUMMER LEVEL.

Macintyre: At Mungindi, falling, 5ft. Barwon: At Mogil Mogil, low; at Walgett, falling, 15ft. Namoi: At Walgett, rising, 5ft. 6in. Culgoa: At Goodooga, low. Darling: At Brewarrina, rising, 4...; at Bourke, rising, 2ft.; at Louth, rising, 2ft.; at Tilpa, rising, 2ft. 9in.; at Wilcannia, falling, 4ft. 6in.; at Menindie, falling, 9ft. 5in.; at Pooncarie, falling, 13ft.; at Wentworth, 20ft. 3in. Murrumbidgee: At Gundagai, falling, 4ft.; at Wagga, 7ft. 3in.; at Hay, 6ft.; at Balranald, 10ft. 3in. Murray: At Albury, 7ft.; at Euston, 22ft. 1in.

ASTRONOMICAL MEMORANDA FOR DECEMBER 27.

Sun rises at 4.50, sets at 7.12; Moon, 4.28 p.m., 2.21 a.m.; Mercury, 3.58 a.m., 6.18 p.m; Venus, 2.9 a.m., 3.36 p.m.; Mars, 12.12 a.m., 12.26 p.m.; Jupiter, 2.21 a.m., 4.8 p.m., Saturn, 9.1 p.m., 7.14 a.m. Full moon, 1st; new moon, 15th.

High water at Fort Denison: 5.43 a.m., 6.10 p.m.

H. C. RUSSELL,
Government Astronomer.

METEOROLOGICAL REPORTS AND MAP FOR DECEMBER 27, 1887.

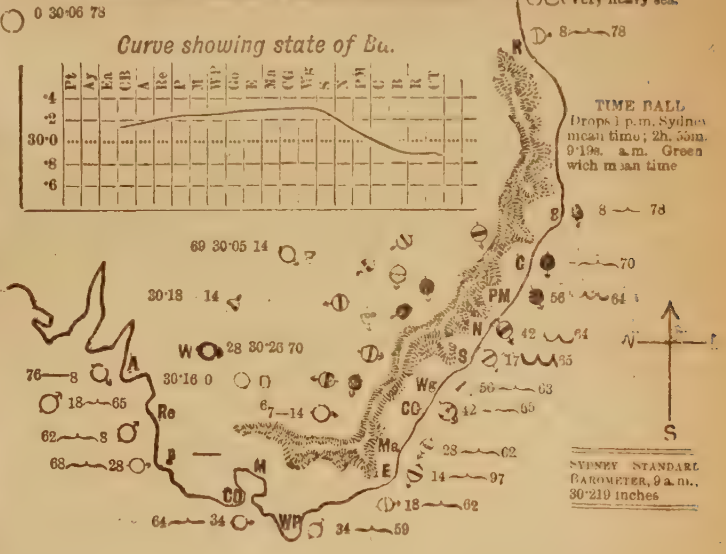
Stations.	W.T.	Mx	Mn	Rn.
Albury	b	77	57	0
Armidale	c	66	55	0·90
Balranald	b	86	52	0
Bathurst	r	64	53	0·26
Bendem'r	r	76	46	0·80
Bodalla	c	[illegible]	56	0·91
Bourke	b	84	5[illegible]	0
Bungarra	r	85	—	0·53
C'md'n H.	r	82	63	3·15
C. St. Geo.	b	66	58	0·15
Carcoar	c	64	43	0·33
Casino	c	92	61	0·90
Cassilis	r	[illegible]	53	0·75
Clarence	r	85	67	0·17
C'nd'b'lin	b	82	41	2·33
Cooma	c	69	45	0
Coonab'n.	b	75	55	0·70
Cowra	u	—	58	0·46
Cudg'llico	g	71	53	1·[illegible]0
Deniliq'n.	b	72	49	0
Dubbo	b	73	56	0·27
Eden	b	68	56	0
Euston	b	64	51	0
Forbes	b	—	5[illegible]	0
G'bo Isl'nd	c	66	58	0·02
Glen Inn's	g	70	56	0·40
Goulburn	u	57	50	0·01
Grafton	r	85	65	1·82
Gulgong	u	63	42	0·44
Gunned'h	—	—	—	—
Hay	b	71	51	0·24
Inverell	b	87	61	0·70
Kiandra	f	67	37	0·04
Lismore	c	[illegible]	67	0·51
Maitland	r	74	60	1·72
M'n'ng H.	r	67	59	2·54
Marsdens.	b	70	50	0·30
Menindie.	u	74	60	0
Molong	c	75	52	0·32
M'r'ng'r'll	b	70	56	0·92
Moree	g	93	67	0
Moruya	c	67	56	0·05
Moss Vale	r	65	52	0·66
Mt. Hope	b	63	51	0·22
M. Victoria	c	84	[illegible]	0·97
Mudgee	b	70	52	0·08
M'r'mb'h	c	61	[illegible]	0·25
M'rr'r'ndi	r	80	6[illegible]	0·77
M'sw'lbr'k	r	86	55	0·0[illegible]
Narrabri	g	[illegible]	[illegible]	0·15
Newcastle	u	64	5[illegible]	1·42
Orange	r	[illegible]	51	0·24
Picton	r	63	56	0·[illegible]8
P. M'q'r'e	r	71	[illegible]	4·40
P. St'ph'n	c	66	54	2·31
Q'nbe'an	c	75	[illegible]	0
Quirindi	r	84	[illegible]0	0·57
Singleton	c	77	60	1·56
Sydney	c	65	59	0·65
Taralga	u	74	48	0·87
Taree	r	70	52	3·[illegible]
T'nt'field	c	88	63	0·44
Wagga	b	87	49	0
Walcha	u	64	[illegible]	·20
Walgett	b	84	30	0
Wallalda	c	80	60	0
Warrah	r	90	60	2·40
W'ntw'rth	b	80	57	0
W'll'ng'ng	c	64	57	0·28
Young	b	69	49	0·84

SYDNEY OBSERVATORY.

LATITUDE 33° 51′ 41″ S. LONGITUDE 10h. 4m. 50·81s. E.
MAGNETIC VARIATION, 9° 35′ 37″ E.

Average Annual Rainfall for 28 years .... 49·489
Average for 29 years from Jan. 1 to Nov. 30 .... 47·495
Total Rainfall from Jan 1, to Dec. 27 1887 .... 59·126

Barometers corrected to 32° Fah. and Mean Sea Level



Fine, wind N. Cloudy, wind E. T. storm, wind S. Rain, wind W. If it is CALM, the symbol used without the arrow. Smooth sea. Heavy sea. Very heavy sea.

TIME BALL
Drops 1 p.m. Sydney mean time; 2h. 55m. 9·19s. a.m. Greenwich mean time

SYDNEY STANDARD BAROMETER, 9 a.m., 30·219 inches

NOTES EXPLANATORY OF MAP.

In the list of stations the column headed W.T. gives the state of the weather at 9 a.m., b, standing for blue sky; c, detached clouds; d, drizzling rain; f, fog; g, gloomy; h, hazy; m, misty; n, frosty; o, overcast; p, passing showers, r, rain; s, snow; t, thunder; u, threatening. The next column, M'x gives the maximum temperature for previous 24 hours; M'n the corresponding minimum temperature, r'n, the rain for the previous 24 hours. The symbols used in the map are explained on the margin. At each coast station the wind symbol is placed like a vane pointing to the direction from which the wind is coming. A clear circle with it means fine weather; a circle with bar, cloudy weather; and a black spot, raining. Next to this symbol are placed figures denoting the number of miles the wind is moving per hour; next, a symbol showing the state of the sea; and, lastly, figures denoting the shade temperature at 9 a.m. The barometer curve shows the state of barometers round the coast from Perth to Cooktown:—Pt, Perth; Ay, Albany; Ea, Eucla; CB, Cape Borda; A, Adelaide; Re, Robe; P, Portland; M, Melbourne; W P, Wilson's Promontory; Go, Gabo; E, Eden; Ma, Moruya; C G, Jervis Bay; Wg, Wollongong; S, Sydney; N, Newcastle; P M, Port Macquarie; C, Clarence River; B, Brisbane; R, Rockhampton; Ct, Cooktown. Inland the state of barometer is given in figures at Albury, Deniliquin, Wentworth, Menindie, Bourke, and Alice Springs. The barometer curve enables one at a glance to trace the depressions, beginning with Western Australia, and passing along eastwards; northerly winds preceding them, and southerly following.

The rainfall on Sundays or holidays, when this map is not published, is in all cases included in the quantities shown by the next following map.

9 A.M. OBSERVATIONS.

Western Australia.—No reports.

South Australia.—Fine and warm throughout; light S.E. to N.E. winds. Heavy rain fell on Saturday between Petersburgh and Hergott; Beltana, 1·40in.; Hawker, 1·30in.; Hergott, 0·60in.; and Carrieton, 0·88in. Sea smooth to moderate. Extremes of barometers and temperature: Cape Northumberland, 30·18; Port Darwin, 29·79 and 85°; and Robe, 62°.

Victoria.—Generally fine, cloudy at a few places along the coast. Light to fresh N.E. to easterly winds, and smooth to moderate sea, but rather rough off Wilson's Promontory. Extremes of barometers and temperature:—Wilson's Promontory, 30·29 and 59°; Echuca, 30·12 and 72°.

Tasmania.—In N.E. part fine but cloudy, with light north-easterly winds; in S.E., fine and hazy. Extremes of barometers and temperature: Low Heads, 30·32 and 64°; Hobart, 30·27 and 56°.

New Zealand.—No reports.

Queensland.—Fine inland, cloudy along the coast, showery at Cape Moreton and Brisbane, moderate sea, thunderstorm around Brisbane yesterday evening. Extremes of barometers and temperature: Brisbane, 29·93; Rockhampton, 29·84; Normanton, 84°; and Cape Moreton, 67°.

New South Wales.—Generally gloomy, unsettled and showery in eastern division; fine west of the Dividing Range, light to fresh and at places rather strong S.W. to S. E. winds, and moderate to rough sea. During the past 24 hours rain has fallen generally, except at a few scattered places in west, heaviest in the central coast and mountain districts, eight stations reporting from 2 to 4 inches. Extra station: Camden, dull, overcast and showery; rainfall, 0·63 inch. Extremes of barometers and temperature:—Hay, 30·31; Clarence Heads, 29·96; Walgett, 74°; and Kiandra, 44°. (For further particulars see map.)

3 P.M. OBSERVATIONS.

New South Wales.—Menindie, S., 28, fine, but cloudy and cool, temperature 73°; Wentworth, E., 14, fine and clear, temperature 73°; Deniliquin, calm, fine, and cool, temperature 79°; Eden, E.S.E., 14, fine, but cloudy, smooth sea, temperature 69°; Moruya, E., 28, overcast and dull, moderate sea, temperature 67°; Cape St. George, E., 42, fine, but cloudy, moderate sea, temperature 63°; Sydney, E.S.E., 15, cloudy and dull, rough sea, temperature 65°; Port Macquarie, E.S.E., 42, overcast and raining, heavy sea, temperature 68°; Clarence River, S., 42, raining, sea moderately heavy, temperature 75°; Dubbo, E., 42, fine, but cloudy, temperature, 71°; Goulburn, E., 14, dull, temperature 64°.

Queensland.—Brisbane, N.E., 8, fine, but cloudy, temperature 76°.

HEIGHT OF RIVERS ABOVE SUMMER LEVEL.

Macintyre: At Yetman, low; at Mungindi, falling, 4ft. 6in. Barwon: At Mogil Mogil, falling, 3ft. 6in.; at Walgett, falling, 14ft. Namoi: At Walgett, rising, 6ft. Culgoa: At Goodooga, low. Darling: At Brewarrina, stationary, 4ft.; at Bourke, rising, 3[illegible] 6in.; at Louth, rising, 2ft. 6in.; at Tilpa, rising, 2ft. 11in.; at Wilcannia, rising, 5ft.; at Menindie, falling, 9ft. [illegible]in.; at Pooncarie, falling, 13ft. 6in.; at Wentworth, 20[illegible] 3in. Murrumbidgee: At Gundagai, rising, 5ft.; at Wagga, 8[illegible]; at Hay, 5ft. 6in.; at Balranald, 16ft. Murray: At Albury, 8ft. 3in.; at Euston, 22ft. 1in.

ASTRONOMICAL MEMORANDA FOR DECEMBER 28.

Sun rises at 4.51, sets at 7.12; Moon, 5.23 p.m., 2.58 a.m.; Mercury, 3.59 a.m., 6.21 p.m; Venus, 2.9 a.m., 3.37 p.m.; Mars, 1[illegible].9 a.m., [illegible].25 p.m.; Jupiter, 2.17 a.m., 4.5 p.m.; Saturn, 8.56 p.m, 7.10 a.m. Full moon, 1st; new moon, 15th.

High water at Fort Denison: 6.36 a.m., 7 p.m.

H. C. RUSSELL,
Government Astronomer.

METEOROLOGICAL REPORTS AND MAP FOR JANUARY 2, 1888.

Stations.	wt	Mx	m	Rn
Albury ..	b	92	63	0·25
Armidale	b	76	55	0·27
Balranald	b	108	66	0
Bathurst	g	84	59	0
Bendem'r	u	76	47	0
Bodalla ..	b	77	59	0
Bourke ..	r	87	72	0·24
Bundarra	b	85	66	0
C'nd'n H.	b	77	67	0
C. St. Geo.	b	—	—	–
Carcoar ..	g	64	51	0·30
Casino ..	b	82	61	0
Cassilis ..	c	80	69	0
Clarence .	c	85	69	0·10
C'nd'b'lin	c	73	51	1·00
Cooma ..	b	91	56	0·11
Coonab'n.	o	88	65	0·02
Cowra ..	g	—	68	0·75
Cudg'llico	b	86	66	0·38
Deniliq'n.	b	97	59	0·69
Dubbo ..	g	71	62	0·01
Eden	f	78	62	0
Euston ..	b	107	68	0
Forbes ..	g	—	51	1·01
G'bo Isl'nd	b	78	62	0
Glen Inn's	b	74	54	0·02
Goulburn	b	73	57	0·03
Grafton ..	b	88	66	0·04
Gulgong .	–	—	—	0
Gunned'h	o	90	70	0
Hay	b	94	67	0
Inverell. .	b	83	59	0
Kiandra. .	u	82	61	0·29
Lismore. .	b	83	68	0·03
Maitland.	b	88	64	0
M'n'ng H.	b	76	65	0
Marsdens.	b	89	69	0·42
Menindie.	b	93	73	0
Molong ..	r	79	50	0·10
M'r'ng'r'll	c	87	67	0·90
Moree ..	b	88	65	0
Moruya ..	b	75	62	0
Moss Vale	b	74	62	0·03
Mt. Hope	g	83	64	0
M. Vict'ria	b	81	52	0
Mudgee ..	g	84	59	0
M'rr'mb'h	b	88	70	1·02
M'rr'r'ndi	b	79	60	0
Mus'lbr'k	b	93	61	0
Narrabri	g	94	67	0
Newcastle	b	74	63	0
Orange ..	r	75	61	0·59
Picton ..	g	80	61	0
P. M'q'rie	c	81	67	0
P. St'ph'n	g	66	60	0
Q'nbeyan	b	88	56	0·65
Quirindi	o	87	65	0
Singleton	b	86	65	0
Sydney ..	b	74	65	0
Taralga ..	b	76	59	0·76
Taree	b	—	—	–
T'nt'rfield	c	80	54	0·07
Wagga ..	g	93	60	0·41
Walcha ..	b	75	59	0
Walgett	g	91	66	0
Warialda	–	—	—	–
Warrah ..	b	80	55	0·25
W'ntw'rth	b	100	73	0·40
W'll'ng'ng	b	79	68	0
Young ..	g	91	61	0·17

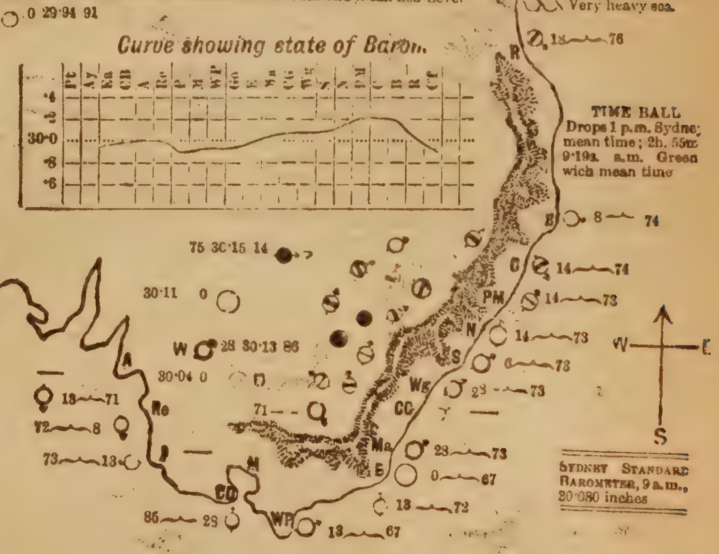
SYDNEY OBSERVATORY.

LATITUDE 33° 51' 41" S. LONGITUDE 10h. 4m. 50·8s. E.

MAGNETIC VARIATION, 9° 35' 37" E.

Average Annual Rainfall for 28 years .... 49·489
Average for 29 years from Jan. 1 to Nov. 30 .... 47·405
Total Rainfall from Jan. 1, to Dec. 31 1887 .... 60·164

Barometers corrected to 32° Fah. and Mean Sea Level



Fine, wind. Cloudy, wind. T. storm, wind S. Rain, wind. If it is CALM, the symbol used without the arrow. Smooth sea. Heavy sea. Very heavy sea.

TIME BALL
Drops 1 p.m. Sydney mean time; 2h. 55m. 9·19s. a.m. Greenwich mean time

SYDNEY STANDARD BAROMETER, 9 a.m., 30·080 inches

NOTES EXPLANATORY OF MAP.

In the list of stations the column headed W.T. gives the state of the weather at 9 a.m., b, standing for blue sky; c, detached clouds; d, drizzling rain; f, fog; g, gloomy; h, hazy; m, misty; n, frosty; o, overcast; p, passing showers; r, rain; s, snow; t, thunder; u, threatening. The next column, M'x gives the maximum temperature for previous 24 hours; M'n the corresponding minimum temperature; r'n, the rain for the previous 24 hours. The symbols used in the map are explained on the margin. At each coast station the wind symbol is placed like a vane pointing to the direction from which the wind is coming. A clear circle with it means fine weather; a circle with bar, cloudy weather; and a black spot, raining. Next to this symbol are placed figures denoting the number of miles the wind is moving per hour; next, a symbol showing the state of the sea; and, lastly, figures denoting the shade temperature at 9 a.m. The barometer curve shows the state of barometers round the coast from Perth to Cooktown:—Pt, Perth; Ay, Albany; Ea, Eucla; CB, Cape Borda; A, Adelaide; Re, Robe; P, Portland; M, Melbourne; W P, Wilson's Promontory; Go, Gabo; E, Eden; Ma, Moruya; C G, Jervis Bay; Wg, Wollongong; S, Sydney; N, Newcastle; P M, Port Macquarie; C, Clarence River; B, Brisbane; R, Rockhampton; Ct, Cooktown. Inland the state of barometer is given in figures at Albury, Deniliquin, Wentworth, Menindie, Bourke, and Alice Springs. The barometer curve enables one at a glance to trace the depressions, beginning with Western Australia, and passing along eastwards; northerly winds preceding them, and southerly following.

The rainfall on Sundays or holidays, when this map is not published, is in all cases included in the quantities shown by the next following map.

9 A.M. OBSERVATIONS.

South Australia.—Generally fine and hot, with light variable winds inland, and southerlies along the south coast; sea smooth generally. Rain recorded at scattered places: Blumberg, 1·64 inch; Gumerache, 1·09 inch; and Balaklava, 1·01 inch. Extremes of barometers and temperature: Robe, 30·02; Port Darwin, 29·74, Alice Springs, 91°; and Cape Borda, 71°.

Victoria.—Fine throughout; light N. to N.E. winds inland, and fresh hot winds along coast; sea smooth to moderate. Wilson's Promontory reports fog at 9 a.m. this morning. Extremes of barometers and temperature: Echuca, 30·02; Portland, 29·89; Cape Otway, 85°; and Wilson's Promontory, 67°.

Tasmania.—Fine and hazy in northern half of colony, cloudy to S.E., sea smooth to moderate; winds are generally light, and from N.E. to S.E. Extremes of barometers and temperature: Circular Head, 29·94 and 68°; Hobart, 83°; and Falmouth, 65°.

Queensland.—Fine generally, cloudy at a few places along the coast and mountain ranges, raining steadily at Thargomindah. Light rain has fallen at a few places along the coast and inland. Winds are generally light N.E. to E., and calms. Extremes of barometers and temperature: Brisbane, 30·17; Cooktown, 29·87; Blackall, 89°; and Thargomindah, 72°.

New South Wales.—Fine in eastern division and extreme S.W. parts; cloudy and gloomy over the remainder of the colony; raining at Bourke, Orange, and Molong. Winds are light and variable, chiefly N. to N.E. and calms; sea smooth generally. During the past 48 hours rain has fallen generally in the southern tableland, and also at scattered stations elsewhere; heaviest in the Lachlan pastoral district, where from ½in. to 1in. has fallen. Extremes of barometers and temperature: Forbes, 30·24; Eden 30·00; Wentworth, 86°; and Armidale, 63°. For further particulars see map.

3 P.M. OBSERVATIONS.

New South Wales.—Sydney, E.N.E., 17, fine but cloudy, temperature 74°.

HEIGHT OF RIVERS ABOVE SUMMER LEVEL.

Macintyre: At Yetman, falling, 5ft.; at Mungindi, stationary, 4ft. Barwon: At Mogil Mogil, low; at Walgett, falling, 7ft. Namoi: At Walgett, falling, 2ft. 6in. Culgoa: At Goodooga, low. Darling: At Brewarrina, falling, 2ft. 6in.; at Bourke, rising, 9ft. 6in.; at Louth, rising, 5ft. 9in.; at Tilpa, rising, 8ft. 6in.; at Wilcannia, rising, 8ft. 6in.; at Menindie, falling 8ft.; at Wentworth, 20ft. 6in. Murrumbidgee: At Gundagai falling, 4ft.; at Wagga, 6ft. 6in.; at Hay, rising, 7ft.; at Balranald, 15ft. 5in. Murray: At Albury, 5ft. 10in.; at Euston, 21ft. 7in.

ASTRONOMICAL MEMORANDA FOR JANUARY 3.

Sun rises at 4.56, sets at 7.13; Moon, 10.19 p.m., 3.14 a.m.; Mercury, 4.14 a.m., 6.40 p.m.; Venus, 2.8 a.m., 3.46 p.m.; Mars, 11.52 p.m., 12.14 p.m.; Jupiter, 1.58 a.m., 3.48 p.m.; Saturn 8.32 p.m., 6.45 a.m. New moon, 13th; full moon, 29th.
High water at Fort Denison: 10.52 a.m., 11.12 p.m.

H. C. RUSSELL,
Government Astronomer.

METEOROLOGICAL REPORTS AND MAP FOR JANUARY 7, 188[illegible]

Stations.	W.T.	Mx	Mn	Rn.
Albury ..	c	81	54	0
Armidale	b	78	56	0
Balranald	b	97	58	0
Bathurst	b	80	50	0
Beudem'r	b	83	55	0
Bodalla ..	c	74	50	0
Bourke ..	b	91	62	0
Bundarra	b	71	55	0
C'md'n H.	b	75	64	0
C. St. Geo.	b	75	62	0
Carcoar ..	b	72	41	0
Casino ..	b	[illegible]	56	0
Cassilis ..	b	80	61	0
Clarence .	b	84	68	0
C'nd'b'lin	b	91	46	0
Cooma ..	c	79	52	0
Coonab'n.	h	80	51	0
Cowra ..	b	85	58	0
Cudg'llico	b	83	53	0
Deniliq'n.	b	88	48	0
Dubbo ..	b	87	53	0
Eden	f	78	53	0·01
Euston ..	b	91	59	0
Forbes ..	b	—	58	0
G'bo Isl'nd	b	67	59	0
Glen Inn's	b	89	57	0
Goulburn	b	79	53	0
Grafton ..	b	85	64	0
Gulgong .	b	80	44	0
Gunned'h	b	89	60	0
Hay	b	88	57	0
Inverell ..	b	85	60	0
Kiandra ..	b	72	35	0
Lismore ..	b	86	63	0
Maitland .	b	87	64	0
M'n'ng H.	b	—	—	0
Marsdens.	b	81	63	0
Menindie.	b	90	63	0
Molong ..	b	77	44	0
M'r'ng'r'll	b	87	63	0
Moree ..	b	89	64	0
Moruya ..	g	73	61	0·04
Moss Vale	b	74	51	0
Mt. Hope	b	88	60	0
M. Vict'ria	b	88	50	0
Mudgee ..	h	85	48	0
M'rr'mb'h	b	77	53	0
M'rr'r'ndi	b	79	60	0
Mus'lbr'k	b	98	56	0
Narrabri	h	93	64	0
Newcastle	b	73	63	0
Orange ..	b	73	50	0
Picton ..	b	79	56	0
P. M'q'rie	b	79	60	0
P. St'ph'n	b	79	56	0
Q'nbeyan	b	87	56	0
Quirindi	b	93	65	0
Singleton	b	83	64	0
SYDNEY ..	b	74	68	0
Taralga ..	b	75	54	0
Taree	—	—	—	0
T'nt'rfield	g	82	57	0
Wagga ..	b	84	48	0
Walcha ..	b	77	45	0
Walgett	b	94	59	0
Warialda	b	86	61	0
Warrah ..	b	85	30	0
W'ntw'rth	b	87	65	0
W'll'ng'ng	b	77	58	0
Young ..	b	86	50	0

SYDNEY OBSERVATORY.

LATITUDE [illegible] S. LONGITUDE 10h. 4m. 50·81s. E.

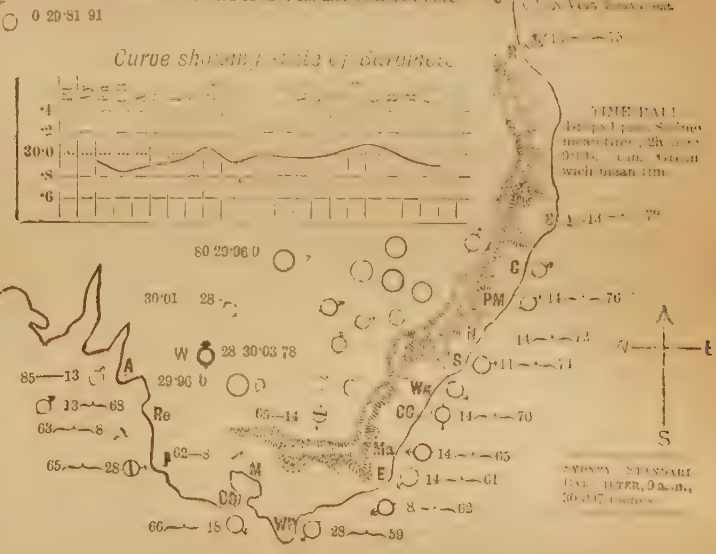
MAGNETIC VARIATION, 9° 35′ 37″ E.

Average Annual Rainfall for [illegible] years [illegible]

Average for 29 years from Jan. 1 to Dec. [illegible] .. 49·357

Total Rainfall from Jan. 1 to Jan. 7 [illegible]

Barometers corrected to 32° Fah. and Mean Sea Level



[illegible] used without the arrow [illegible]

TIME BALL [illegible]

SYDNEY STANDARD [illegible] 9 a.m., [illegible]

NOTES EXPLANATORY OF MAP.

In the list of stations the column headed W.T. gives the state of the weather at 9 a.m., b, standing for blue sky; c, detached clouds; d, drizzling rain; f, fog; g, gloomy; h, hazy; m, misty; n, frosty; o, overcast; p, passing showers; r, rain; s, snow; t, thunder; u, threatening. The next column, M'x gives the maximum temperature for previous 24 hours; M'n the corresponding minimum temperature, r'n, the rain for the previous 24 hours. The symbols used in the map are explained on the margin. At each coast station the wind symbol is placed like a vane pointing to the direction from which the wind is coming. A clear circle with it means fine weather, a circle with bar, cloudy weather; and a black spot, raining. Next to this symbol are placed figures denoting the number of miles the wind is moving per hour; next, a symbol showing the state of the sea; and, lastly, figures denoting the shade temperature at 9 a.m. The barometer curve shows the state of barometers round the coast from Perth to Cooktown:—Pt, Perth; Av, Albany; E, Eucla; CB, Cape Borda; A, Adelaide; Re, Robe; P, Portland; M, Melbourne; W P, Wilson's Promontory; Go, Gabo; E, Eden, Ma, Moruya; C G, Jervis Bay; Wg, Wollongong; S, Sydney; N, Newcastle, P M, Port Macquarie; C, Clarence River; B, Brisbane; R, Rockhampton; Ct, Cooktown. Inland the state of barometer is given in figures at Albury, Deniliquin, Wentworth, Menindie, Bourke, and Alice Springs. The barometer curve enables one at a glance to trace the depressions, beginning with Western Australia, and passing along eastwards; northerly winds preceding them, and southerly following.

The rainfall on Sundays or holidays, when this map is not published, is in all cases included in the quantities shown by the next following map.

9 A.M. OBSERVATIONS.

South Australia.—Generally fine and warm, with increasing temperature; still cloudy in Northern Territory, and scattered clouds in south. Winds are light to fresh N.E. to northerly, and the sea smooth to moderate along the south coast, but rough off Port Darwin in north. Daly Waters reports 0·83 inch rain fallen. Extremes of barometers and temperature: Cape Northumberland, 29·95 and 63°; Port Darwin, 29·67; and Alice Springs, 91°.

Victoria.—Fine, but more or less cloudy, with light to fresh S. to S.E. winds, and smooth to moderate sea. Extremes of barometers and temperature: Cape Otway, 30·07; Echuca, 29·95 and 71°; and Wilson's Promontory, 59°.

Tasmania.—Cloudy, except in extreme N.W. parts, where it is fine, light S. to W. and S.E. winds, and smooth to moderate sea. Falmouth reports 0·09 inch rain fallen. Extremes of barometers and temperature: Falmouth, 30·04 and 61°; Southport, 29·99 and 56°.

New Zealand.—Fine generally, with N.W. to S.W. winds. Barometers: In north, 29·9; over centre, 29·7; in south 29·6.

Queensland.—Fine but cloudy, and in places showery. Winds are very strong S. to E. on coast, and light to fresh N.E. to easterly inland. Cooktown reports 5·07 rain; Cloncurry, steady rain. Extremes of barometers and temperature: Roma, 30·04; Townsville, 29·81; Blackall, 90°; and Mackay, 72°.

New South Wales.—Fine generally, except in extreme S.E. parts, where it is cloudy and misty; light W. to N.W. and N.E. winds and calms, fresh at a few scattered places, smooth sea generally. During the past 24 hours the only stations reporting rainfall are Eden and Moruya. Extremes of barometers and temperature: Hay, 30·12; Eden, 29·94 and 61°; and Walgett, 82°. (For further particulars see map.)

3 P.M. OBSERVATIONS.

New South Wales.—Menindie, E., 14, fine, temperature 82°; Wentworth, S.W., cloudy, hot, temperature 77°; Deniliquin, calm, fine, temperature 80°; Eden, S.E., 14, cloudy, like rain, smooth sea, temperature 66°; Moruya, E.N.E., 13, fine, moderate sea, temperature 75°; Cape St. George, E., 28, light, fine, little sea, temperature 72°; Sydney, N.E., 23, strong, fine, smooth sea, temperature 75°; Newcastle, N.E., strong, fine, smooth sea, temperature 71°; Port Macquarie, N.E., 28, fine, smooth sea, temperature 78°; Clarence River, N.E., 20, fine, temperature 77°; Walgett, calm, cloudy, sultry, temperature 88°; Dubbo, N.W., 28, fine, temperature 77°; Goulburn, E., fine, temperature 76°.

Victoria.—Portland, E.S.E., 28, fine, smooth sea, temperature 67°; Cape Otway, E., 28, fine, smooth sea, temperature 65°; Wilson's Promontory, S.W., 16, fine, smooth sea, temperature 64°.

Queensland.—Townsville, S., 28, showery, temperature 79°; Mackay, S.E., 18, raining, temperature 71°; Rockhampton, [illegible], 28, cloudy, temperature 75°; Cape Moreton, E., 13, cloudy; Hughenden, E., 28, like rain, temperature 84°; Boulia, N.E., 34, fine; Thargomindah, N.E., 8, fine; Roma, N.E., 18, cloudy; Cloncurry, N.E., raining steadily; Thursday Island, N.W., wind squally, raining.

HEIGHT OF RIVERS ABOVE SUMMER LEVEL.

Barwon: At Mogil Mogil, falling, 3ft.; at Walgett, falling, 3ft. Namoi: At Walgett, low. Culgoa: At Goodooga, low. Darling: At Brewarrina, rising, 2ft. 3in.; at Bourke, falling, 7ft. 8in.; at Louth, falling, 5ft. 6in.; at Tilpa, stationary, 10ft., at Wilcannia, rising, 10ft. 8in.; at Menindie, rising, 5ft. 9in.; at Pooncarie, 9ft. 9in.; at Wentworth, 20ft. 5in. Murrumbidgee: At Gundagai, falling, 7ft. 3in.; at Wagga, rising, 13ft. 3in.; at Hay, falling, 8ft. 3in.; at Balranald, 14ft 11in. Murray: At Albury, 8ft. 7in.; at Euston, 22ft. 5in.

ASTRONOMICAL MEMORANDA FOR JANUARY 9.

Sun rises at 5.1, sets at 7.14; Moon, 1.31 a.m., 2.39 p.m.; Mercury, 4.32 a.m., 6.58 p.m.; Venus, 2.8 a.m., 3.56 p.m.; Mars, 11.36 p.m., 12.3 p.m.; Jupiter, 1.38 a.m., 3.29 p.m.; Saturn, 8.7 p.m., 6.18 a.m. New moon, 13th; full moon, 29th.

High water at Fort Denison: 3.52 a.m., 4.31 p.m.

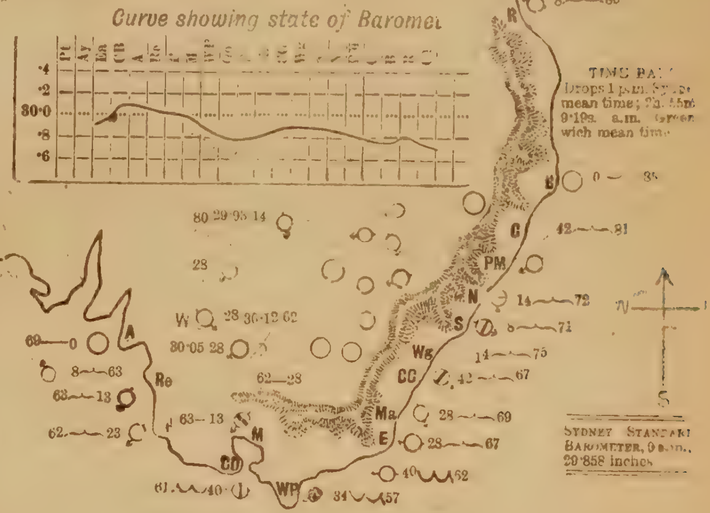
H. C. RUSSELL,
Government Astronomer.

SYDNEY OBSERVATORY
LATITUDE 33° 51' 41" S. LONGITUDE 10h. 4m. 50·81s. E.
MAGNETIC VARIATION, 9° 35' 57" E.

Average Annual Rainfall for 28 years .... 49·489
Average for 29 years from Jan. 1 to Dec. 31 .... 49·857
Total Rainfall from Jan 1, to Jan. 21 1888 ...... 0·877
Barometers corrected to 32° Fah. and Mean Sea Level

Stations.	W.T.	Mx.	M'n.	R'n.
Albury ..	b	85	56	0
Armidale	b	90	56	0
Balranald	b	92	57	0
Bathurst	b	88	50	0
Bendem'r	b	98	71	0
Bodalla ..	b	79	41	0
Bourke ..	b	105	69	0
Bundarra	h	88	64	0
C'md'n H.	b	86	71	0
C. St. Geo.	c	90	61	0
Carcoar ..	b	83	46	0
Casino ..	c	102	71	0
Cassilis ..	b	89	62	0
Clarence ..	b	87	72	0
C nd'b'lin	b	98	51	0
Cooma ..	b	83	45	0
Coonab'n.	b	[illegible]	59	0
Cowra ..	b	93	63	0
Cudg'llico	b	96	55	0
Deniliq'n.	b	88	49	0
Dubbo ..	b	95	53	0
Eden	b	85	58	0
Euston ..	b	88	50	0
Forbes ..	b	—	62	0
G'bo Isl'nd	b	77	59	0
Glen Inn's.	b	95	56	0
Goulburn	b	87	53	0
Grafton ..	b	102	72	0
Gulgong ..	b	90	56	0
Gunned'h	b	101	68	0
Hay	b	87	55	0
Inverell ..	b	95	59	0
Kiandra ..	b	80	35	0
Lismore ..	b	98	73	0
Maitland ..	b	96	68	0
M'n'ng H.	b	83	68	0
Marsdens.	b	94	68	0
Menindie.	b	89	60	0
Molong ..	b	93	50	0
M'r'ng'r'll	b	91	63	0
Moree ..	b	105	69	0
Moruya ..	b	80	63	0
Moss Vale	b	81	59	0
Mt. Hope	b	96	60	0
M. Vict'ria	b	89	54	0
Mudgee ..	b	97	52	0
M'rr'mb'h	b	83	61	0
M'rr'r'ndi	b	90	63	0
Mus'lbr'k	b	100	58	0
Narrabri	b	105	60	0
Newcastle	d	91	65	0
Orange ..	b	81	57	0
Picton ..	b	90	53	0
P. M'q'rie	b	85	66	0
P. St'ph'n	b	86	60	0
Q'nbeyan	b	83	56	0
Quirindi	b	98	65	0
Singleton	b	94	67	0
SYDNEY ..	c	87	63	0
Taralga ..	b	84	50	0
Taree	b	94	71	0
T'nt'rfield	b	96	60	0
Wagga ..	b	93	49	0
Walcha ..	b	86	45	0
Walgett	b	100	68	0
Warialda	b	103	55	0
Warrah ..	b	93	48	0
W'ntw'rth	b	86	53	0
W'll'ng'ng	b	92	60	0
Young ..	b	94	58	0

13——69. EUCLA



NOTES EXPLANATORY OF MAP.

In the list of stations the column headed W.T. gives the state of the weather at 9 a.m., b, standing for blue sky; c, detached clouds; d, drizzling rain; f, fog; g, gloomy; h, hazy; m, misty; n, frosty; o, overcast; p, passing showers; r, rain; s, snow; t, thunder; u, threatening. The next column, M'x gives the maximum temperature for previous 24 hours; M'n the corresponding minimum temperature; r'n, the rain for the previous 24 hours. The symbols used in the map are explained on the margin. At each coast station the wind symbol is placed like a vane pointing to the direction from which the wind is coming. A clear circle with it means fine weather; a circle with bar, cloudy weather; and a black spot, raining. Next to this symbol are placed figures denoting the number of miles the wind is moving per hour; next, a symbol showing the state of the sea; and, lastly, figures denoting the shade temperature at 9 a.m. The barometer curve shows the state of barometers round the coast from Perth to Cooktown:—Pt, Perth; Ay, Albany; Ea, Eucla; CB, Cape Borda; A, Adelaide; Re, Robe; P, Portland; M, Melbourne; W P, Wilson's Promontory; Go, Gabo; E, Eden; Ma, Moruya; C G, Jervis Bay; Wg, Wollongong; S, Sydney; N, Newcastle; P M, Port Macquarie; C, Clarence River, B, Brisbane; R, Rockhampton, Ct. Cooktown. Inland the state of barometer is given in figures at Albury, Deniliquin, Wentworth, Menindie, Bourke, and Alice Springs. The barometer curve enables one at a glance to trace the depressions beginning with Western Australia, and passing along eastwards; northerly winds preceding them, and southerly following.

The rainfall on Sundays or holidays, when this map is not published, is in all cases included in the quantities shown by the next following map.

9 A.M. OBSERVATIONS.

Western Australia.—Reports only from S.W. parts, where it is fine, with scattered clouds, light variable winds and calms; smooth sea. Extremes of barometers and temperature: Albany, 29·83 and 68·; Esperance Bay, 29·79 and 84·.

South Australia.—Generally fine, warm, and pleasant, with light scattered clouds throughout; light S.W. to S.E. and easterly winds; smooth sea generally. Extremes of barometers and temperature: Cape Borda, 30·08; Port Darwin, 29·82; Alice Springs, 93·; and Cape Northumberland, 59·.

Victoria.—Generally fine but cloudy, and on parts of the coast showery; winds are from W. to S.W. and southerly, light to fresh inland, strong and squally round the coast; sea moderate to rough, high sea off Cape Otway. Light rain recorded on the coast; heaviest 0·08 inches at Wilson's Promontory. Extremes of barometers and temperature: Ballarat, 30·04; Wilson's Promontory, 29·82 and 58·; and Horsham, 69·.

Tasmania.—Fine in N.E. parts; over the rest of the colony gloomy and showery; winds are fresh to strong and squally, S.W. to westerly; sea moderate to rough. Light rain recorded generally, heaviest at Southport, 0·89 inch. Extremes of barometers and temperature: Circular Head, 29·76; Hobart, 29·60 and 56·; and Falmouth, 66.

New Zealand.—Fine along east coast, gloomy in extreme north, and passing showers on west coast; winds are from N.W. to westerly, and strong in central parts. Barometers: In north, 29·9: over centre, 29·5; and in south, 29·2.

Queensland.—Generally fine, but more or less cloudy; winds are generally light to fresh, with calms in places, N.W. to northerly along the coast, and S.E. inland. Light rain recorded in the coast districts north of Brisbane. Extremes of barometers and temperature: Rockhampton, 29·83; Boulia, 29·71 and 96·; and Roma, 70·.

New South Wales.—Fine weather prevails generally, cloudy at a few places along the coast line; winds are generally light to fresh from S.E. to S.W. and N.W., with calms in places on and near the mountains; sea smooth to moderate, but rather rough off Gabo Island. No rain has fallen during the past 24 hours. Extra station: Coonamble, max., 96·; min., 62·; S.E. wind; fine and clear. Hill End, S.W. wind, fine and very hot. Extremes of barometers and temperature: Hay, 30·15; Gabo Island, 29·77; Lismore, 83·; and Cooma, 58·. (For further particulars see map.)

3 P.M. OBSERVATIONS.

New South Wales.—Wilcannia, calm, like storm to W. at 3 p.m.; Eden, W.S.W., 28, fine, smooth sea, temperature 77; Moruya, S., 14, fine, smooth sea, temperature 76·; Cape St George, E., 42, fine, little sea, temperature 70·; Sydney, NE., 14, fine, smooth sea; Newcastle, S.E., 10, fine, no sea, temperature 73·; Port Macquarie, S., 42, fine, clear, smooth sea, temperature 80·; Clarence River, S., 20, fine, moderate sea, temperature 79·; Walgett, calm, fine, temperature 93·; Bourke, S., 14, fine, temperature 92·; Dubbo, S., 14, fine, temperature 80·; Forbes, S.W., 14, fine, temperature 84·; Goulburn, W., fine, temperature 78·; Bathurst, W., fine, temperature 82·.

Queensland.—Townsville, S.E., 12, hot, moderate sea, temperature 84·; Mackay, E., 13, fine, fresh, temperature 75·, Rockhampton, N.W., 8, fine, temperature 91·; Cape Moreton, S.E., 12, cloudy, temperature 88·; Hughenden, S.W., 13, very hot, fine, heavy storm Saturday night, 1·01in. rain fell, temperature 95·; Boulia, S.E., 34, fine, temperature 107·; Blackall, S.W., 8, fine, close, temperature 107·; Thargomindah, S.E., 13, fine, clear; Cloncurry, S.W., 8, clouds about, hot, temperature 112·.

HEIGHT OF RIVERS ABOVE SUMMER LEVEL.

Macintyre: At Yetman, low; at Mungindi, falling, 6ft. 8in. Barwon: At Mogil Mogil, falling, 12ft.; at Walgett, 14ft 4in. Namoi: At Walgett, falling, 6ft. 6in. Culgoa: At Goodooga, low. Darling: At Brewarrina, rising, 6ft. 9in.; at Bourke, rising, 8ft. 10in.; at Louth, rising, 5ft.; at Tilpa, rising, 10ft 2in.; at Wilcannia, rising, 9ft. 1in.; at Menindie, falling, 10ft. 5in.; at Pooncarie, 11ft. 5in.; at Wentworth, 18ft. 11in. Murrumbidgee: At Gundagai, stationary, 3ft.; at Wagga, falling, 4ft. 6in.; at Hay, falling, 8ft. 6in.; at Balranald, 14ft. Murray: At Albury, 3ft.; at Euston, 18ft. 10in.

ASTRONOMICAL MEMORANDA FOR JANUARY 23.

Sun rises at 5.14, sets at 7.10; Moon, 2.16 p.m., 12.18 a.m.; Mercury, 5.20 a.m., 7.25 p.m.; Venus, 2.14 a.m., 4.19 p.m.; Mars, 10.56 p.m., 11.34 a.m.; Jupiter, 12.51 a.m., 2.45 p.m.; Saturn, 7.9 p.m., 5.19 a.m. New moon, 13th; full moon, 29th.

High water at Fort Denison: 2.40 a.m., 3.13 p.m.

H. C. RUSSELL,
Government Astronomer.

SYDNEY OBSERVATORY.

LATITUDE 33° 51' 41" S. LONGITUDE 10h. 4m. 50·81s. E.
MAGNETIC VARIATION, 9° 35' 37" E.

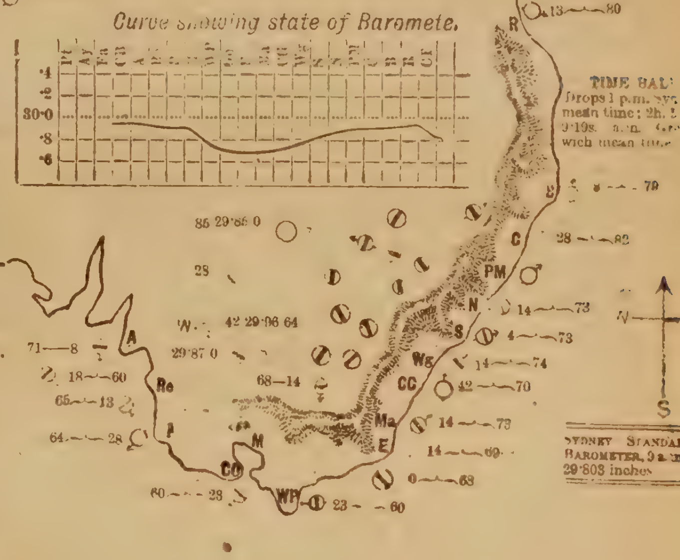
Average Annual Rainfall for 28 years ....49·480
Average for 29 years from Jan. 1 to Dec. 31 ..... 49·857
Total Rainfall from Jan 1, to Jan. 23 1888 ...... 0·377
Barometers corrected to 32° Fah. and Mean Sea Level

Stations.	W.T.	Mx	Mn	Rn.
Albury ..	n	90	52	0
Armidale	g	88	59	0
Balranald	g	96	57	0
Bathurst	c	88	47	0
Bendem'r	h	91	69	0
Bodalla ..	b	77	59	0
Bourke ..	b	102	67	0
Buncarra	b	86	66	0
C'md'n H.	b	80	70	0
C. St. Geo.	c	77	65	0
Carcoar ..	c	77	41	0
Casino ..	b	89	56	0
Cassilis ..	c	83	67	0
Clarence ..	b	87	72	0·01
C nd'b'lin	b	92	49	0
Cooma ..	c	86	52	0
Coonab'n.	b	97	61	0
Cowra ..	b	99	56	0
Cudg'llico	g	96	31	0
Deniliq'n.	g	98	49	0
Dubbo ..	b	95	67	0
Eden	b	78	63	0
Euston ..	u	105	70	0
Forbes ..	g	—	58	0
G'bo Isl'nd	c	77	63	0
Glen Inn's	b	91	76	0
Goulburn	b	95	50	0
Grafton ..	b	89	70	0
Gulgong ..	b	83	48	0
Gunned'h	c	94	74	0
Hay	g	96	57	0
Inverell ..	b	88	64	0
Kiandra ..	c	84	28	0
Lismore ..	b	90	64	0
Maitland ..	b	86	65	0
M'n'ng H.	b	80	66	0
Marsdens.	c	90	63	0
Menindie.	g	98	75	0
Molong ..	g	97	44	0
M'r'ng'r'll	c	90	68	0
Moree ..	g	100	69	0
Moruya ..	g	76	61	0·01
Moss-Vale	b	75	61	0
Mt. Hope	g	99	70	0
M. Vict'ria	b	89	54	0
Mudgee ..	g	97	57	0
M'rr'mb'h	c	87	52	0
M'rr'r'nd'	b	88	55	0
Mus'lbr'k	g	88	61	0
Narrabri	g	100	69	0
Newcastl	g	73	65	0
Orange ..	g	81	60	0
Picton ..	c	81	51	0
P. M'q'rie	b	85	68	0
P. St'ph'n	g	81	60	0
Q'nbeyan	c	81	63	0
Quirindi	u	92	68	0
Singleton	b	88	67	0
SYDNEY ..	c	75	64	0
Taralga ..	b	84	42	0
Taree	b	88	68	0
T'nt'rfield	b	99	60	0
Wagga ..	g	96	45	0
Walcha ..	c	86	54	0
Walgett	b	103	73	0
Warialda	c	97	71	0
Warrah ..	u	80	60	0
W'ntw'rth	c	98	73	0
W'll'ng'ng	g	81	64	0
Young ..	b	95	48	0

Fine, wind N. Cloudy, wind ... T. storm, wind S. Rain, wind ...
If it is CALM, the symbol used without the arrow
Smooth sea.
Heavy sea.
Very heavy sea.

TIME BALL
Drops 1 p.m. Sydney mean time; 2h. 5m. 9·19s. a.m. Greenwich mean time.

SYDNEY STANDARD BAROMETER, 9 a.m. 29·803 inches.



NOTES EXPLANATORY OF MAP.

In the list of stations the column headed W.T. gives the state of the weather at 9 a.m., b, standing for blue sky; c, detached clouds, d, drizzling rain; f, fog; g, gloomy; h, hazy; m, misty; n, frosty; o, overcast; p, passing showers; r, rain; s, snow; t, thunder; u, threatening. The next column, M'x gives the maximum temperature for previous 24 hours. M'n the corresponding minimum temperature; R'n, the rain for the previous 24 hours. The symbols used in the map are explained on the margin. At each coast station the wind symbol is placed like a vane pointing to the direction from which the wind is coming. A clear circle with it means fine weather, a circle with bar, cloudy weather; and a black spot, raining. Next to this symbol are placed figures denoting the number of miles the wind is moving per hour; next, a symbol showing the state of the sea; and, lastly, figures denoting the shade temperature at 9 a.m. The barometer curve shows the state of barometers round the coast from Perth to Cooktown:—Pt, Perth; Ay, Albany; Ea, Eucla; CB, Cape Borda; A, Adelaide; Re, Robe; P, Portland; M, Melbourne; W P, Wilson's Promontory; Go, Gabo; E, Eden; Ma, Moruya; C G, Jervis Bay; Wg, Wollongong; S, Sydney; N, Newcastle; P M, Port Macquarie; C, Clarence River; B, Brisbane; R, Rockhampton, Ct, Cooktown. Inland the state of barometer is given in figures at Albury, Deniliquin, Wentworth, Menindie, Bourke, and Alice Springs. The barometer curve enables one at a glance to trace the depressions, beginning with Western Australia, and passing along eastwards; northerly winds preceding them, and southerly following.

The rainfall on Sundays or holidays, when this map is not published, is in all cases included in the quantities shown by the next following map.

9 A.M. OBSERVATIONS.

Western Australia.—No reports.

South Australia.—Cloudy, gloomy, or threatening rain throughout, raining lightly south of Hergott; light to fresh S.W. to S.E. winds; sea smooth to moderate. Light rain recorded south of Burra up to 0·35 inch, and west of Cape Borda up to 0·50 inch; also in Northern Territory: Port Darwin, 0·36 inch; Daly Waters, 0·36 inch. Extremes of barometers and temperature: Cape Borda, 29·96 and 60°; Alice Springs, 29·69 and 100°.

Victoria.—Cloudy and threatening rain generally, showery on the coast; light to fresh S.W. to N.W. winds; sea smooth to moderate. From 0·05 to 0·13 inch rain has fallen along the coast. Extremes of barometers and temperature: Ballarat, 29·91; Lakes Entrance, 29·74; Echuca, 75°; and Cape Otway, 60°.

Tasmania.—Fine, but more or less cloudy; fresh N.W. to S.W. winds; smooth to moderate sea, but rough off Circular Head. Light rain recorded generally, heaviest in north parts. Circular Head, 0·56 inch; Low Head, 0·46 inch. Extremes of barometers and temperature: Circular Head, 29·69; Falmouth, 29·51 and 65°; and Southport, 60°.

New Zealand.—No reports.

Queensland.—Generally fine, with scattered clouds, except at Burketown, where it is showery; light N. to N.E. and S.E. winds, sea generally smooth. Thunderstorm passed over Blackall during last night. Extremes of barometers and temperature: Brisbane, 29·98; Boulia, 29·65; Cloncurry, 99°; and Brisbane, 79°.

New South Wales.—Generally cloudy, sultry, and in places threatening rain; on coast winds are generally from N.E. to N.W., strong in north; light to fresh southerlies in south; calms in interior and along the mountains; sea smooth generally. Extra stations: Coonamble, max. 88°, min. 60°, N. wind, fine and clear: Wilcannia, max. 85°, min. 71°, calm, like rain; Yetman, fine and clear, with N.E. wind. Extremes of barometers and temperature. Hay, 30·02; Gabo Island, 29·68; Bourke, 85°; and Cooma, 64°; (For further particulars see map.)

3 P.M. OBSERVATIONS.

South Australia.—Adelaide, S., 13, cloudy, temperature 71°.

New South Wales.—Wilcannia, S.S.W., 10, fine, temperature 90°; Wentworth, S., like rain, temperature 76°; Deniliquin, S.S.W., 10, fine, temperature 80°; Eden, S.S.W., 14, fine, little sea, temperature 75°; Moruya, S.S.E., 14, raining, smooth sea, temperature 74°; Cape St. George, N., 42, cloudy, dull, smooth sea, temperature 72°; Sydney, E.N.E., 8, overcast and gloomy, smooth sea, temperature 74°; Newcastle, N.E., 14, fine, smooth sea, temperature 79°; Port Macquarie, N.E., 56, hazy, cloudy, moderate sea, temperature 80°; Clarence River, E.N.E, 28, fine, smooth sea, temperature 82°; Walgett, N.W., 14, cloudy, temperature 100°; Bourke, S.W., 14, fine, hot; Dubbo, N.W., 14, fine, but cloudy, temperature 85°; Forbes, N.W., 14, fine, hot, temperature 92°; Goulburn, W., 14, dull, temperature 77°; Bathurst, W., 14, dull, like rain, temperature 82°.

Queensland.—Townsville, N.E., fine, smooth sea; Rockhampton, E., 8, fine, temperature 87°; Cape Moreton, E., fine, cloudy, temperature 81°; Brisbane, N.E., 18, fine, temperature 85°; Hughenden, calm, cloudy, temperature 92°; Boulia, S.W., 18, fine, temperature 115°; Blackall, N.E., 13, hot, temperature 102°; Thargomindah, S.E., 14, fine, clear; Cloncurry, N.E., 15, fine, temperature 110°.

HEIGHT OF RIVERS ABOVE SUMMER LEVEL.

Macintyre: At Yetman, low. Barwon: At Mogil Mogil, falling, 3ft.; at Walgett, falling, 12ft. 6in. Namoi: At Walgett, falling, 5ft. 9in. Culgoa: At Goodooga, low. Darling: At Brewarrina, stationary, 6ft. 9in.; at Bourke, rising, 10ft. 4in.; at Louth, rising, 7ft.; at Tilpa, rising, 11ft. 2in.; at Wilcannia, rising, 10ft.; at Menindie, falling, 9ft. 11in.; at Pooncarie, falling, 11ft., at Wentworth, 18ft. Murrumbidgee: At Gundagai, stationary, 3ft.; at Wagga, falling, 4ft. 2in.; at Hay, falling, 8ft. 3in., at Balranald, 14ft. Murray: At Albury, 2ft. 11in.; at Euston, 18ft. 6in.

ASTRONOMICAL MEMORANDA FOR JANUARY 24.

Sun rises at 5.15, sets at 7.9; Moon, 3.11 p.m., 2.34 a.m., Mercury, 5.25 a.m., 7.26 p.m.; Venus, 2.15 a.m., 4.21 p.m.; Mars, 10.53 p.m., 11.32 a.m.; Jupiter, 12.48 a.m., 2.42 p.m.; Saturn, 7.4 p.m., 5.14 a.m. New moon, 13th; full moon, 29th.

High water at Fort Denison: 3.46 a.m., 4.21 p.m.

H. C. RUSSELL,
Government Astronomer.

Stations.	wt	Mx	m'n	R'n
Albury ..	b	95	64	0
Armidale	c	72	57	0·03
Balranald	b	90	56	0
Bathurst	b	65	48	0
Bendem'r	b	76	62	0
Bodalla ..	-	—	—	-
Bourke ..	u	100	66	0·10
Bundarra	c	76	62	0·04
C'md'n H.	c	78	68	0
C. St. Geo.	b	74	60	0
Carcoar ..	b	76	43	0
Casino ..	c	86	56	0
Cassilis ..	c	78	64	0
Clarence .	c	85	72	0
C nd'b'lin	b	95	51	0
Cooma ..	b	86	50	0
Coonab'n.	n	85	60	0·30
Cowra ..	b	101	64	0
Cudg'llico	b	94	44	0
Deniliq'n.	b	99	55	0
Dubbo ..	b	92	63	0
Eden	b	75	61	0
Euston ..	b	102	65	0
Forbes ..	b	—	63	0
G'bo Isl'nd	b	77	63	0
Glen Inn's	u	73	55	0

○ 18——69 EUCLA

Goulburn	b	83	50	0
Grafton ..	c	89	67	0
Gulgong .	c	78	50	0
Gunned'h	c	95	69	0
Hay	b	97	69	0
Inverell. .	c	86	61	0·30
Kiandra. .	b	85	37	0
Lismore. .	u	79	67	0
Maitland .	b	74	—	0
M'a'ng H.	b	73	64	0
Marsdens.	b	91	71	0
Menindie.	b	92	73	0
Molong ..	b	80	51	0
M'r'ng'r'll	b	96	63	0
Moree ..	c	78	67	0·13
Moruya ..	b	75	60	0
Moss Vale	b	72	55	0
Mt. Hope	b	102	64	0
M. Vict'ria	b	92	50	0
Mudgee ..	o	83	57	0
M'rr'mb'h	b	88	61	0
M'rr'r'ndi	b	79	63	0
Mus'lbr'k	b	80	59	0
Narrabri	b	97	67	0
Newcastle	b	—	—	-
Orange ..	b	77	53	0
Picton ..	-	—	—	-
P. M'q'rie	b	81	65	0
P. St'ph'n	b	80	55	0
Q'nbeyan	b	82	67	0
Quirindi	b	90	67	0
Singleton	b	81	65	0
Sydney ..	b	73	59	0
Taralga ..	b	80	47	0
Taree	b	75	63	0
T'nt'rfield	u	89	54	0
Wagga ..	b	98	59	0
Walcha ..	u	72	50	0·04
Walgett	r	78	66	0·45
Warialda	b	84	64	0·01
Warrah ..	b	83	61	0
W'ntw'rth	b	94	68	0
W'll'ng'ng	b	82	56	0
Young ..	b	99	55	0

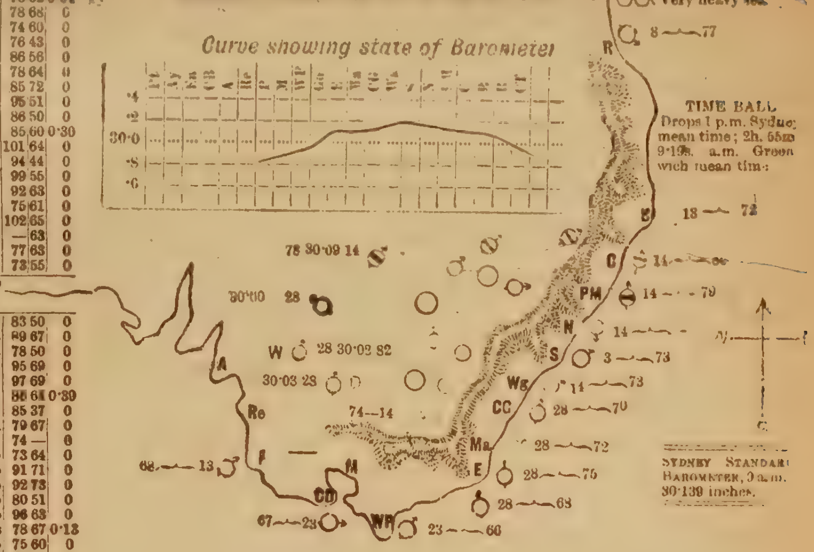
SYDNEY OBSERVATORY.

LATITUDE 33° 51' 41" S. LONGITUDE 10h. 4m. 50·81s. E.
MAGNETIC VARIATION. 9° 35' 37" E.

Average Annual Rainfall for 28 years .... 49·489
Average for 29 years from Jan. 1 to Dec. 31 ...... 49·857
Total Rainfall from Jan 1, to Jan. 26 1888 ...... 0·384

Barometers corrected to 32° Fah. and Mean Sea Level

Fine, wind N. — Cloudy, wind E. — T. storm, wind S. — Rain, wind W.
If it is CALM, the symbol used without the arrow
Smooth sea.
Heavy sea.
Very heavy sea.



NOTES EXPLANATORY OF MAP.

In the list of stations the column headed W.T. gives the state of the weather at 9 a.m., b, standing for blue sky; c, detached clouds; d, drizzling rain; f, fog; g, gloomy; h, hazy; m, misty; n, frosty; o, overcast; p, passing showers; r, rain; s, snow; t, thunder; u, threatening. The next column, M'x gives the maximum temperature for previous 24 hours; M'n the corresponding minimum temperature; r'n, the rain for the previous 24 hours. The symbols used in the map are explained on the margin. At each coast station the wind symbol is placed like a vane pointing to the direction from which the wind is coming. A clear circle with it means fine weather; a circle with bar, cloudy weather; and a black spot, raining. Next to this symbol are placed figures denoting the number of miles the wind is moving per hour; next, a symbol showing the state of the sea; and, lastly, figures denoting the shade temperature at 9 a.m. The barometer curve shows the state of barometers round the coast from Perth to Cooktown:—Pt, Perth; Ay, Albany; Ea, Eucla; CB, Cape Borda; A, Adelaide; Re, Robe; P, Portland; M, Melbourne; W P, Wilson's Promontory; Go, Gabo; E, Eden; Ma, Moruya; C G, Jervis Bay; Wg, Wollongong; S, Sydney; N, Newcastle; P M, Port Macquarie; C, Clarence River; B, Brisbane; R, Rockhampton; Ct, Cooktown. Inland the state of barometer is given in figures at Albury, Deniliquin, Wentworth, Menindie, Bourke, and Alice Springs. The barometer curve enables one at a glance to trace the depressions, beginning with Western Australia, and passing along eastwards; northerly winds preceding them, and southerly following.

The rainfall on Sundays or holidays, when this map is not published, is in all cases included in the quantities shown by the next following map.

9 A.M. OBSERVATIONS.

Western Australia.—No reports.

South Australia.—No reports.

Victoria.—Fine and clear inland, scattered clouds along the coast, winds are light to fresh and variable, chiefly from N.E. to northerly, squally on the coast, sea smooth to moderate. Extremes of barometers and temperature: Omeo, 30·02; Portland, 29·83: Ballarat, 78°; and Wilson's Promontory, 66°.

Tasmania.—Generally fine and hazy, light to fresh N.W. to N.E. and S.E. winds, sea smooth to moderate. Extremes of barometers and temperature: Low Head, 30·05; Southport, 29·68; Hobart, 68°; and Falmouth, 63°.

New Zealand.—No reports.

Queensland.—Generally cloudy, gloomy, and unsettled; raining lightly at Normanton; light to fresh N.W. to N.E. winds inland, and S.E. to easterly along the coast; light to heavy rain recorded in central parts and on the coast; sea smooth to moderate. Extremes of barometers and temperature: Brisbane, 30·05 and 72°; Cooktown, 29·89; and Cloncurry, 90°.

New South Wales.—Cloudy and unsettled in the districts north of the Hunter River Valley and along the Barwon River, showery at Walgett; over the rest of the colony generally fine, warm, and hazy, light to fresh N.E. to S.E. winds, with calms at places along the mountains; sea smooth to moderate. Since 9 p.m. yesterday light rain has fallen in the Northern districts west of the mountains, heaviest at Yetman, 0·55in. Extra stations: Coonamble, max. 98°, min. 60°; cloudy, with easterly wind, 0·06in. rain fallen; Hill End, fine, clear, and calm. Extremes of barometers and temperature: Hay, 30·18; Gabo Island, 29·99; Deniliquin, 84°; and Mount Victoria, 60°. (For further particulars see map.)

3 P.M. OBSERVATIONS.

Victoria.—No telegrams.

New South Wales.—Sydney, E.N.E., 20, fine and pleasant, temperature 74°; Walgett, 3in. of rain fell on the Barwon yesterday, 40 miles north of here. Approaching rainstorm checked by high barometers, anti-cyclone conditions in this colony; heavy rain, it will be seen from the reports, fell in the north.

Queensland.—Squally, with rain at Cape Moreton, wind S., 28 miles.

HEIGHT OF RIVERS ABOVE SUMMER LEVEL.

Macintyre: At Yetman, low. Barwon: At Mogil Mogil, falling, 5ft.; at Walgett, falling, 11ft. Namoi: At Walgett, stationary, 5ft. Culgoa: At Goodooga, low. Darling: At Brewarrina, falling, 6ft. 10in.; at Bourke, falling, 9ft. 3in.; at Louth, rising, 8ft. 9in.; at Tilpa, rising, 12ft. 3in.; at Wilcannia, rising, 11ft. 6in.; at Menindie, rising, 9ft. 9in.; at Pooncarie, falling, 10ft. 8in.; at Wentworth, 17ft. 6in. Murrumbidgee: At Gundagai, stationary, 3ft.; at Wagga, falling, 3ft. 9in.; at Hay, falling, 6ft.; at Balranald, 13ft. 10in. Murray: At Albury, 2ft. 8in.; at Euston, 18ft.

ASTRONOMICAL MEMORANDA FOR JANUARY 27.

Sun rises at 5.18, sets at 7.7; Moon, 5.56 p.m., 3.4 a.m.; Mercury, 5.39 a.m., 7.32 p.m.; Venus, 2.18 a.m., 4.25 p.m.; Mars, 10.44 p.m., 11.26 a.m.; Jupiter, 12.37 a.m., 2.31 p.m.; Saturn, 6.51 p.m., 5.1 a.m. New moon, 13th; full moon, 29th.

High water at Fort Denison: 6.57 a.m., 7.22 p.m.

H. C. RUSSELL,
Government Astronomer.

Stations	W.T.	Mx	Mn	R'n
[illegible]	c	90	60	0
Armidale	b	77	55	0
Balranald	e	99	57	0
Bathurst	b	[illegible]	[illegible]	0
Bendem'r	g	86	59	0
Bodalla	b	75	60	0
Bourke	b	105	76	0
Bundarra	c	83	70	0
C'md'n H.	b	77	69	0·78
C. St. Geo.	b	73	66	0
Carcoar	b	79	51	0
Casino	c	87	67	0
Cassilis	c	80	66	0
Clarence	b	81	70	0·19
C nd'b'lin	b	98	68	0
Cooma	c	86	59	0
Coonab'n.	b	93	61	0
Cowra	b	104	71	0
Cudg'llico	b	95	47	0
Deniliq'n.	g	98	72	0
Dubbo	b	96	64	0
Eden	b	78	63	0
Euston	g	102	66	0
Forbes	b	—	71	0
G'bo Isl'nd	b	72	65	0
Glen Inn's	b	74	58	0
Goulburn	b	79	55	0
Grafton	b	92	67	0
Gulgong	b	82	50	0
Gunned'h	c	93	73	0
Hay	–	—	—	–
Inverell	c	89	68	0·90
Kiandra	g	76	67	0
Lismore	c	80	71	0·30
Maitland	b	76	61	0
M'n'ng H.	b	74	60	1·75
Marsdens	b	95	73	0
Menindie	u	—	—	0
Molong	b	89	54	0
M'r'ng'r'll	b	93	67	0
Moree	b	98	71	0
Moruya	b	79	63	0
Moss Vale	b	72	59	0
Mt. Hope	b	91	51	0
M. Vict'ria	b	81	58	0
Mudgee	c	86	57	0
M'rr'mb'h	b	94	64	0
M'rr'r'ndi	u	81	64	0
Mus'lbr'k	b	80	64	0
Narrabri	b	96	75	0
Newcastle	b	77	62	0
Orange	b	81	58	0
Picton	b	73	59	0·07
P. M'q'rie	b	79	68	0·14
P. St'ph'n	b	78	59	0·15
Q'nbeyan	b	77	60	0
Quirindi	g	87	68	0
Singleton	b	79	69	0
Sydney	b	81	66	0
Taralga	b	79	50	0
Taree	c	76	65	0·18
T'nt'rfield	u	78	62	0
Wagga	b	97	59	0
Walcha	c	72	52	0
Walgett	b	99	75	0
Warialda	c	90	67	0
Warrah	u	85	63	0
W'ntw'rth	c	98	73	0
W'll'ng'ng	b	77	64	0
Young	b	92	73	0

SYDNEY OBSERVATORY.

Latitude 33° 51' 41" S. Longitude 10h. 4m. 50s. E.

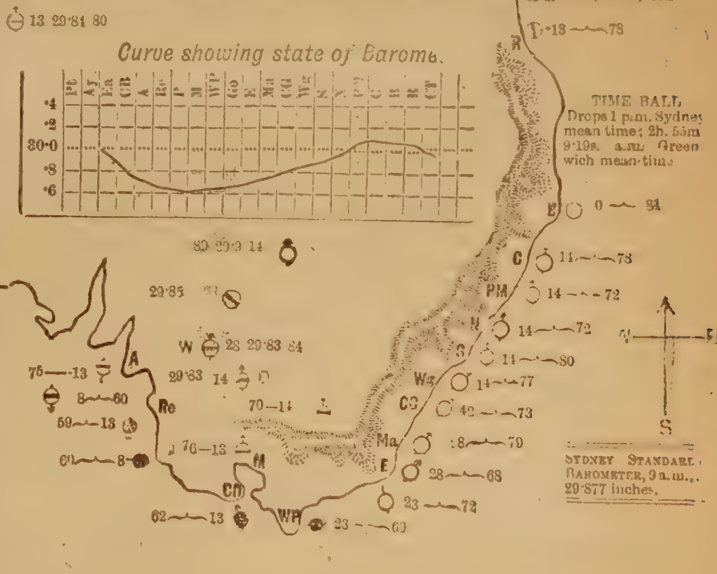
Magnetic Variation, 9° 35' 37" E.

Average Annual Rainfall for [illegible] years .... [illegible]

Average for 30 years from Jan. 1 to Jan. [illegible] .... 3·512

Total Rainfall from Jan. 1, to [illegible] .... 0·141

Barometers corrected to 32° Fah. and Mean Sea Level



NOTES EXPLANATORY OF MAP.

In the list of stations the column headed W.T. gives the state of the weather at 9 a.m., b, standing for blue sky; c, detached clouds; d, drizzling rain; f, fog; g, gloomy; h, hazy; m, misty; n, frosty; o, overcast; p, passing showers; r, rain; s, snow; t, thunder; u, threatening. The next column, M'x gives the maximum temperature for previous 24 hours; M'n the corresponding minimum temperature; r'n, the rain for the previous 24 hours. The symbols used in the map are explained on the margin. At each coast station the wind symbol is placed like a vane pointing to the direction from which the wind is coming. A clear circle with it means fine weather; a circle with bar, cloudy weather, and a black spot, raining. Next to this symbol are placed figures denoting the number of miles the wind is moving per hour; next, a symbol showing the state of the sea; and, lastly, figures denoting the shade temperature at 9 a.m. The barometer curve shows the state of barometers round the coast from Perth to Cooktown:—Pt, Perth; Ay, Albany; Ea, Eucla; CB, Cape Borda; A, Adelaide; Re, Robe; P, Portland; M, Melbourne; W P, Wilson's Promontory; Go, Gabo; E, Eden; Ma, Moruya; C G, Jervis Bay; Wg, Wollongong; S, Sydney; N, Newcastle; P M, Port Macquarie; C, Clarence River; B, Brisbane; R, Rockhampton; Ct, Cooktown. Inland the state of barometer is given in figures at Albury, Deniliquin, Wentworth, Menindie, Bourke, and Alice Springs. The barometer curve enables one at a glance to trace the depressions, beginning with Western Australia, and passing along eastwards; northerly winds preceding them, and southerly following.

The rainfall on Sundays or holidays, when this map is not published, is in all cases included in the quantities shown by the next following map.

9 A.M. OBSERVATIONS.

Western Australia.—No reports.

South Australia.—Generally overcast and gloomy, with showers or threatening rain on parts of the coast, light to fresh N.W. to S.W. winds, smooth sea. Rainfall: Generally south of Port Wakefield; heaviest at Beachport, 1·87in.; Millicent, 1·31in.; Mount Gambier, 0·84in. Extremes of barometers and temperature: Eucla, 29·95; Robe, 29·63 and 59°; Daly Waters, 82°.

Victoria.—Generally overcast, gloomy and sultry; in parts raining or threatening rain; light to fresh N.W. to N. winds; smooth to moderate sea. Rainfall: At scattered places; heaviest, 0·56 inch at Portland. Extremes of barometer and temperature: Cape Schanck, 29·65; Portland, 29·59 and 60°; Horsham, 76°.

Tasmania.—Generally fine, but more or less cloudy and like a change; light N.E. to N.W. winds; smooth to moderate sea. Extremes of barometers and temperature: Low Heads, 29·54 and 62°; Hobart, 29·38 and 69°.

New Zealand.—Generally fine, with light variable winds. Barometers: In north, 30·1; over centre, 29·9; in south, 29·8.

Queensland.—Generally fine around Brisbane, with light east winds. Along the coast fresh to strong N.E. and E. winds. Thunderstorms have occurred on the Downs of South Bourke and Southern Cook districts. Heavy rains have fallen around Cloncurry; upwards of 4in. were recorded at places. Extremes of barometers and temperature: Cape Moreton, 30·05; Normanton, 29·91 and 78°; Thargomindah, 100°.

New South Wales.—In south-west parts, along the Southern border, and on the ranges in north it is cloudy and like a change. Over the remainder of the colony, fine, clear, warm weather prevails. Winds are generally light northerlies, but in central parts strong north-westerlies have set in. The sea continues smooth, with a moderate swell at places. Rain has fallen along the coast north from Newcastle, and at Picton and Inverell. Extremes of barometers and temperature: Clarence, 30·07; Gabo, 29·64; Bourke, 89°; and Kiandra, 59°. (For further particulars see map.)

3 P.M. OBSERVATIONS.

New South Wales.—Wilcannia, N., 45, hot, northerly gale, temperature 98°; Wentworth, N.W., 10, cloudy, hot, temperature 80°; Deniliquin, N., cloudy, dull, temperature 87°; Eden, N.E., 28, cloudy, hot, temperature 79°; Moruya, N.E., 28, fine, hot, temperature 86°; Cape St. George, N., 42, fine, smooth sea, temperature 85°; Sydney, N.E., 20, fine, clear, smooth sea, temperature 83°; Newcastle, N.E., 15, fine, smooth sea, temperature 79°; Port Macquarie, N.E., 42, fine, smooth sea, temperature 81°; Walgett, N.W.; Bourke, N.N.E., 10, cloudy, hot, temperature 105°; Dubbo, N.W., 14, cloudy, temperature 85°; Forbes, N.W., 18, fine, hot, temperature 105°; Goulburn, N.W., cloudy, hot, temperature 79°; Hay, W.S.W., 20 cloudy; Bathurst, N.W., cloudy, temperature 90°.

Queensland.—Brisbane, E., 13, cloudy, temperature 81°.

HEIGHT OF RIVERS ABOVE SUMMER LEVEL.

Macintyre: At Mungindi, low. **Barwon**: At Mogil Mogil, low; at Walgett, falling, 7ft. 2in. **Namoi**: At Walgett, falling, 4ft. **Culgoa**: At Goodooga, low. **Darling**: At Brewarrina, low; at Bourke, falling, 5ft. 6in.; at Louth, falling, 6ft. 7in.; at Tilpa, falling, 10ft. 4in.; at Wilcannia, falling, 12ft. 4in.; at Menindie, rising, 13ft.; at Pooncarie, rising, 10ft. 6in.; at Wentworth, 15ft. 3in. **Murrumbidgee**: At Gundagai, stationary, 3ft; at Wagga, 2ft. 6in.; at Hay, 3ft. 6in.; at Balranald, 13ft. **Murray**: At Albury, 2ft. 4in.; at Euston, 14ft. 10in.

ASTRONOMICAL MEMORANDA FOR FEBRUARY 6.

Sun rises at 5.28, sets at 7; Moon, 12.15 a.m., 1.37 p.m.; Mercury, 6.26 a.m., 7.44 p.m.; Venus, 2.28 a.m., 4.38 p.m.; Mars, 10.14 p.m., 11.1 a.m.; Jupiter, 12.3 a.m., 2.1 p.m.; Saturn, 6.10 p.m., 4.18 a.m. New moon, 12th; full moon, 27th.

High Water at Fort Denison: 2.13 a.m., 2.48 p.m.

H. C. RUSSELL,
Government Astronomer.

Stations.	W.T.	M'x	M'n	R'n.
Albury	b	85	55	0
Armidale	g	75	63	0·10
Balranald	b	96	51	0
Bathurst	g	88	49	0
Bendem'r	c	81	64	0·01
Bodalla	b	74	61	0
Bourke	b	99	65	0
Bundarra	c	79	70	0·48
C'md'n H.	-	—	—	-
C. St. Geo.	b	79	65	0
Carcoar	b	75	45	0
Casino	u	99	47	0
Cassilis	b	86	70	0
Clarence	g	89	74	0
C'nd'b'lin	b	96	49	0
Cooma	b	86	47	0
Coonab'n.	b	93	50	0
Cowra	b	96	60	0
Cudg'llico	b	91	60	0
Deniliq'n.	b	89	52	0
Dubbo	h	95	49	0
Eden	u	70	62	0
Euston	b	92	52	0
Forbes	b	—	60	0
G'bo Isl'nd	-	—	—	-
Glen Inn's	o	65	61	1·60
Goulburn	b	86	54	0
Grafton	r	98	73	0·20
Gulgong	b	88	—	0
Gunned'h	b	87	72	0
Hay	b	87	56	0
Inverell	r	77	68	0·90
Kiandra	-	—	—	-
Lismore	-	—	—	-
Maitland	c	90	67	0
M'n'ng H.	g	78	70	0
Marsdens	b	92	67	0
Menindie	b	—	—	0
Molong	g	85	48	0
M'r'ng'r'll	b	91	60	0
Moree	g	88	71	0·06
Moruya	b	81	63	0
Moss Vale	h	80	56	0
Mt. Hope	b	96	62	0
M. Vict'ria	b	90	52	0
Mudgee	b	97	51	0
M'rr'mb'h	b	87	55	0
M'rr'r'ndi	b	83	64	0
Mus'lbr'k	b	92	68	0
Narrabri	u	95	70	0
Newcastle	g	75	68	0
Orange	b	79	54	0
Picton	c	83	53	0
P. M'q'rie	h	84	71	0
P. St'ph'n	g	87	69	0
Q'nbeyan	b	82	53	0
Quirindi	b	87	71	0
Singleton	g	91	70	0
Sydney	c	86	64	0
Taralga	b	89	57	0
Taree	c	86	72	0
T'nt'rfield	u	91	54	1·80
Wagga	b	92	50	0
Walcha	b	75	58	0·01
Walgett	b	90	66	0
Warialda	c	80	64	0·43
Warrah	b	84	66	0·02
W'ntw'rth	b	68	56	0
W'll'ng'ng	g	86	63	0
Young	b	94	54	0

SYDNEY OBSERVATORY.

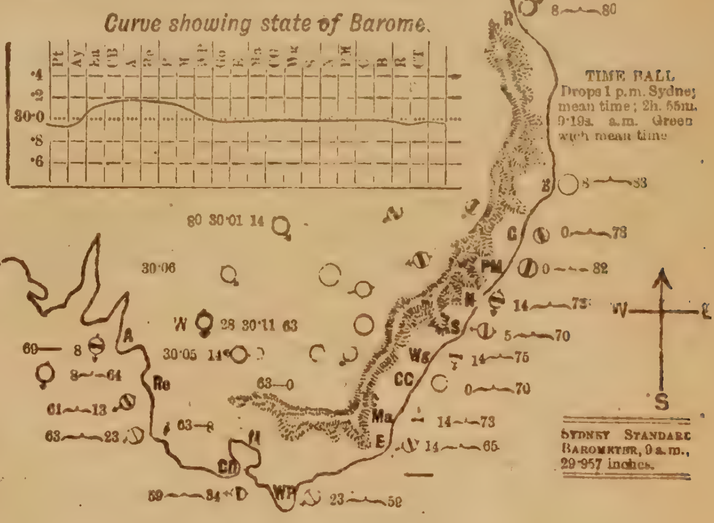
LATITUDE 33° 51' 41" S. LONGITUDE 10h. 4m. 50·81s. E.

MAGNETIC VARIATION, 9° 35' 37" E.

Average Annual Rainfall for 29 years............49·857
Average for 30 years from Jan. 1 to Jan. 31 ...... 3·612
Total Rainfall from Jan. 1, to Feb. 8 1888 ...... 0·655

Barometers corrected to 32° Fah. and Mean Sea Level

Fine, wind N. Cloudy, wind E. T. storm, wind S. Rain, wind W. If it is CALM, the symbol used without the arrow. Smooth sea. Heavy sea. Very heavy sea.



SYDNEY STANDARD BAROMETER, 9 a.m., 29·957 inches.

NOTES EXPLANATORY OF MAP.

In the list of stations the column headed W.T. gives the state of the weather at 9 a.m., b, standing for blue sky; c, detached clouds; d, drizzling rain; f, fog; g, gloomy; h, hazy; m, misty; n, frosty; o, overcast; p, passing showers; r, rain; s, snow; t, thunder; u, threatening. The next column, M'x gives the maximum temperature for previous 24 hours. M'n the corresponding minimum temperature; r'n, the rain for the previous 24 hours. The symbols used in the map are explained on the margin. At each coast station the wind symbol is placed like a vane pointing to the direction from which the wind is coming. A clear circle with it means fine weather; a circle with bar, cloudy weather; and a black spot, raining. Next to this symbol are placed figures denoting the number of miles the wind is moving per hour; next, a symbol showing the state of the sea; and, lastly, figures denoting the shade temperature at 9 a.m. The barometer curve shows the state of barometers round the coast from Perth to Cooktown:—Pt, Perth; Ay, Albany; Ea, Eucla; CB, Cape Borda; A, Adelaide; Re, Robe; P, Portland; M, Melbourne; W P, Wilson's Promontory; Go, Gabo; E, Eden; Ma, Moruya; C G, Jervis Bay; Wg, Wollongong; S, Sydney; N, Newcastle; P M, Port Macquarie; C, Clarence River; B, Brisbane; R, Rockhampton; Ct, Cooktown. Inland the state of barometer is given in figures at Albury, Deniliquin, Wentworth, Menindie, Bourke, and Alice Springs. The barometer curve enables one at a glance to trace the depressions, beginning with Western Australia, and passing along eastwards; northerly winds preceding them, and southerly following.

The rainfall on Sundays or holidays, when this map is not published, is in all cases included in the quantities shown by the next following map.

9 A.M. OBSERVATIONS.

Western Australia.—In south parts cloudy, sultry weather, with light variable winds and calms, and smooth to moderate sea. No reports from N.W. parts. Extremes of barometers and temperature: Perth, 29·96; Albany, 29·90 and 65°; Esperance Bay, 85°.

South Australia.—Generally fine, pleasant, and clear weather inland; scattered clouds on and near the coast; light S.E. to S.W. winds; smooth to moderate sea. No reports from the Northern Territory. Extremes of barometers and temperature: Adelaide, 30·14; Farina, 30·01; Eucla, 72°; and Cape Northumberland, 61°.

Victoria.—Generally fine, but cloudy, and on the coast threatening rain; light to fresh N. to S.W. winds; moderate sea; no rain reported. Extremes of barometers and temperature: Ballarat, 30·11 and 58°; Lakes Entrance, 29·98; Echuca and Horsham, 70°.

Tasmania.—Generally fine, but unsettled, and at Hobart showery; fresh westerly winds; rough sea. Rainfall: In South-east parts from 0·04in. to 0·15in. Extremes of barometers and temperature: Circular Heads, 29·92; Falmouth, 29·81 and 63°; Southport, 55°.

New Zealand.—Generally fine, with light N.W. to S.W. winds. Barometers: In north, 30·0; over centre, 29·8; in south, 29·6.

Queensland.—In north parts unsettled; in south, fine but cloudy, with light variable winds. Thunderstorms with more or less heavy rains have occurred in the Bourke, Cook, Peninsula, Darling Downs, and Maranoa districts. Extremes of barometers and temperature: Rockhampton, 39·97 and 80°; Normanton, 29·86; and Thargomindah, 85°.

New South Wales.—In N.E. parts and along the coast it is more or less cloudy and unsettled, with threatening rain at places, and at Inverell and Grafton raining. Over the remainder of the colony fine clear weather prevails. Winds are generally very light, variable, or calms. The sea is smooth. Rains have fallen in N.E. parts; Glen Innes and Tenterfield report over an inch fallen. Extremes of barometers and temperature: Wentworth, 30·11; Eden, 29·93; Bourke, 80°; and Cooma, 63°. For further particulars see map.

3 P.M. OBSERVATIONS.

South Australia.—Adelaide, W.S.W., 15; overcast; temperature, 69°.

Victoria.—Portland, S. 23, cloudy, smooth sea, temperature 63°.

New South Wales.—Wilcannia, S., 28, fine, like change, temperature 85°; Wentworth, S., 14, fine, temperature 80°; Deniliquin, S., 14, fine, temperature 79°; Eden, E., 14, fine, smooth sea, temperature 69°; Moruya, S.E., 42, cloudy, gloomy, smooth sea, temperature 68°; Cape St. George, E., 42, fine, but cloudy, smooth sea, temperature 74°; Sydney, E., 14, fine and hazy, smooth sea, temperature 77°; Newcastle, S.S.E., 14, fine, smooth sea, temperature 78°; Port Macquarie, E., 14, cloudy, sultry, smooth sea, temperature 83°; Clarence River, S.W., 14, raining, smooth sea, temperature 79°; Walgett, S.E., 14, fine, temperature 91°; Bourke, S.W., 14, fine, hot, temperature 97°; Dubbo, S.W., 14, fine, temperature 82°; Forbes, S.W., fine, clear, temperature 89°; Goulburn, W., 14, fine, temperature 75°; Bathurst, calm, fine, hot, temperature 87°.

Queensland.—Hughenden, S.E., 8, fine, hot, temperature 92°; Boulia, S.E., 23, cloudy, like storm; Thargomindah, S.E., 13, fine, temperature 92°; Cloncurry, N.E., 14, cloudy, storm rising, temperature 90°.

HEIGHT OF RIVERS ABOVE SUMMER LEVEL.

Macintyre: At Mungindi, low. Barwon: At Mogil Mogil, low; at Walgett, 5ft. 8in. Namoi: At Walgett, low. Culgoa: At Goodooga, low. Darling: At Brewarrina, low; at Louth, 5ft.; at Tilpa, 8ft. 10in.; at Wilcannia, 11ft.; at Menindie, 12ft. 11in.; at Pooncarie, 11ft. 2in.; at Wentworth, 14ft. 6in. Murrumbidgee: At Gundagai, 3ft.; at Wagga, 3ft.; at Hay, 2ft. 6in.; at Balranald, 11ft. Murray: At Albury, 2ft.; at Euston, 13ft. 10in.

ASTRONOMICAL MEMORANDA FOR FEBRUARY 9.

Sun rises at 5.31, sets at 6.58; Moon, 2.45 a.m., 4.39 p.m.; Mercury, 6.38 a.m., 7.44 p.m.; Venus, 2.33 a.m., 4.42 p.m.; Mars, 10.3 p.m., 10.52 a.m.; Jupiter, 11.52 p.m., 1.50 p.m.; Saturn, 5.57 p.m., 4.5 a.m. New moon, 12th; full moon, 27th.

High water at Fort Denison: 6.2 a.m., 6.35 p.m.

H. C. RUSSELL,
Government Astronomer.

Stations.	W.T.	Mx	Mn	R'n.
Albury ..	u	97	66	1·72
Armidale	u	73	61	1·35
Balranald	c	109	63	0·01
Bathurst	r	87	62	1·14
Bendem'r	u	79	61	1·28
Bodalla ..	g	81	60	0
Bourke ..	u	88	71	0·25
Bundarra	c	79	69	0·58
C'md'n H.	c	81	69	0
C. St. Geo.	r	79	66	0·03
Carcoar ..	r	75	51	0·90
Casino ..	c	81	68	0·80
Cassilis ..	c	78	69	1·18
Clarence ..	u	83	70	0·48
C nd'b'lin	u	93	52	0·96
Cooma ..	c	90	61	0·03
Coonab'n.	r	86	65	1·15
Cowra ..	r	90	70	0·94
Cudg'llico	b	98	88	0·30
Deniliq'n.	b	106	65	0
Dubbo ..	r	82	67	1·22
Eden	c	72	69	0
Euston ..	b	112	65	0
Forbes ..	r	—	63	1·12
G'bo Isl'nd	c	78	68	0
Glen Inn's	u	69	58	0·74
Goulburn	r	—	56	0·30
Grafton ..	u	87	72	1·15
Gulgong ..	r	85	54	1·50
Gunned'h	r	85	65	2·65
Hay	c	100	72	0·0
Inverell ..	u	82	68	93
Kiandra ..	r	87	41	0
Lismore ..	r	86	70	0·20
Maitland ..	r	86	70	0·70
M'n'ng H.	c	76	69	1·16
Marsdens.	c	87	70	0·32
Menindie.	b	—	—	0
Molong ..	r	68	56	0·82
M'r'ng'r'll	n	91	71	0·08
Moree ..	g	86	66	1·07
Moruya ..	u	79	66	0·02
Moss Vale	r	73	64	0·41
Mt. Hope	b	67	67	0·10
M. Vict'ria	r	74	55	0·88
Mudgee ..	r	83	60	1·92
M'rr'mb'h	u	86	64	0
M'rr'r'ndi	r	76	64	2·05
Mus'lbr'k	r	82	68	1·41
Narrabri	u	88	67	2·07
Newcastle	r	78	67	0·50
Orange ..	r	77	62	1·20
Picton ..	r	80	65	0·43
P. M'q'rie	c	78	69	1·81
P. St'ph'n	u	81	63	0·61
Q'nbeyan	u	86	63	0
Quirindi	r	81	70	2·79
Singleton	u	83	70	0·83
Sydney ..	r	76	69	0·60
Taralga ..	r	80	54	0·36
Taree	r	84	61	0·92
T'nt'rfield	g	78	47	0·35
Wagga ..	g	100	63	0
Walcha ..	u	71	55	0·19
Walgett	u	82	68	0·74
Warialda	c	84	65	0·81
Warrah ..	r	80	68	2·75
W'ntw'rth	b	104	64	0
W'll'ng'ng	r	80	67	0·25
Young ..	n	89	64	0·03

SYDNEY OBSERVATORY.

Latitude 33° 51′ 41″ S. Longitude 10h. 4m. 50·8s. E.

Magnetic Variation, 9° 30′ 37″ E.

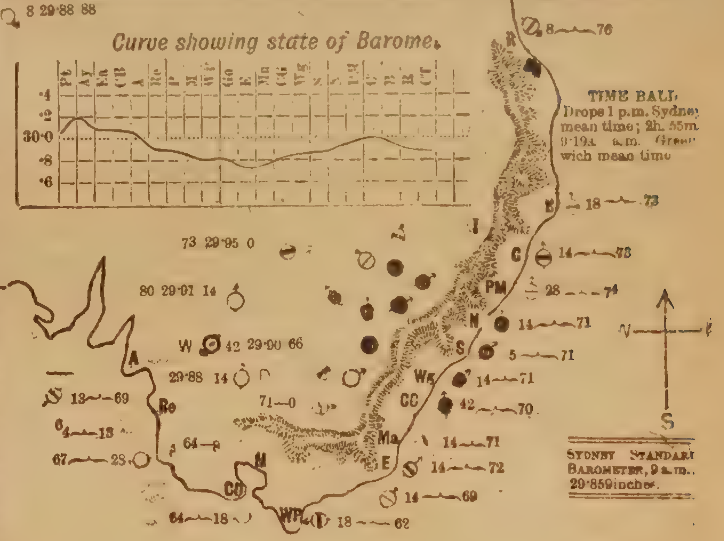
Average Annual Rainfall for 29 years .... 49·867

Average for 30 years from Jan. 1 to Jan. 31 ..... 3·512

Total Rainfall from Jan. 1, to Feb. 13 1888 ..... 2·604

Barometers corrected to 32° Fah. and Mean Sea Level

Fine, wind N. Cloudy wind E. T. storm, wind S. Rain, wind W. If it is calm, the symbol used without the arrow. Smooth sea. Heavy sea. Very heavy sea.



TIME BALL

Drops 1 p.m. Sydney mean time; 2h. 55m. 9·19s. a.m. Greenwich mean time

Sydney Standard Barometer, 9 a.m., 29·859 inches.

NOTES EXPLANATORY OF MAP.

In the list of stations the column headed W.T. gives the state of the weather at 9 a.m., b, standing for blue sky; c, detached clouds; d, drizzling rain; f, fog; g, gloomy; h, hazy; m, misty; n, frosty; o, overcast; p, passing showers; r, rain; s, snow; t, thunder; u, threatening. The next column, M'x gives the maximum temperature for previous 24 hours; M'n the corresponding minimum temperature; r'n, the rain for the previous 24 hours. The symbols used in the map are explained on the margin. At each coast station the wind symbol is placed like a vane pointing to the direction from which the wind is coming. A clear circle with it means fine weather; a circle with bar, cloudy weather; and a black spot, raining. Next to this symbol are placed figures denoting the number of miles the wind is moving per hour; next, a symbol showing the state of the sea; and, lastly, figures denoting the shade temperature at 9 a.m. The barometer curve shows the state of barometers round the coast from Perth to Cooktown:—Pt, Perth; Ay, Albany; Ea, Eucla; CB, Cape Borda; A, Adelaide; Ro, Robe; P, Portland; M, Melbourne; W P, Wilson's Promontory; Go, Gabo; E, Eden; Ma, Moruya; C G, Jervis Bay; Wg, Wollongong; S, Sydney; N, Newcastle; P M, Port Macquarie; C, Clarence River; B, Brisbane; R, Rockhampton; Ct, Cooktown. Inland the state of barometer is given in figures at Albury, Deniliquin, Wentworth, Menindie, Bourke, and Alice Springs. The barometer curve enables one at a glance to trace the depressions, beginning with Western Australia, and passing along eastwards; northerly winds preceding them, and southerly following.

The rainfall on Sundays or holidays, when this map is not published, is in all cases included in the quantities shown by the next following map.

9 A.M. OBSERVATIONS.

Western Australia.—Generally fine, with clouds at places, light easterly winds, and smooth sea. Extremes of barometers and temperature: Albany, 30·26 and 65°; Ashburton, 29·78; and Carnarvon, 87°.

South Australia.—Generally fine and cool, with scattered clouds on and near the coast; light S.W. to S.E. winds; smooth sea. Rainfall: Port Darwin, 4 inches. Extremes of barometer and temperature: Eucla, 30·13; Port Darwin, 29·83; Alice Springs, 88°; and Robe, 64°.

Victoria.—Generally fine, but cloudy, and on the S.E. coast threatening rain; light W. to S.W. winds; smooth sea. Thunderstorms in parts last night. Rainfall: Generally from 0.01 to 0.42 inches. Extremes of barometers and temperature: Cape Otway, 29·91; Echuca, 29·78 and 81°; Wilson's Promontory, 62°.

Tasmania.—On the north coast fine, with light westerly winds and smooth sea. No reports from south parts. Extremes of barometers and temperature: Low Heads, 29·74 and 66°; Circular Head, 29·76 and 64°.

New Zealand.—Passing showers in extreme south; fine to northwards; light N.W. winds and calms. Barometers: In north, 30·3: over centre, 30·1; in south, 30·0.

Queensland.—Generally gloomy to showery, with fresh E. to N.E. winds along the coast. In the far west end in N.W. parts fine pleasant weather prevails, with light N. to N.W. winds. Heavy rains have fallen east, from Cunnamulla and up coast districts to Cooktown. Extremes of barometers and temperature: Brisbane, 29·98 and 73°; Normanton, 29·81; and Blackall, 96°.

New South Wales.—In south-west parts it is fine and clear. Over the remainder of the colony the weather is either threatening rain or raining more or less heavily. Winds are generally light and variable, chiefly east to northerly, or calm. The sea is smooth to moderate. Rain has fallen generally, except on the Lower Darling and Murray Rivers. In the Liverpool Plains, the Bligh, and the Wellington pastoral districts, most of the reporting stations report from 1 to over 2 inches fallen. Very heavy thunderstorm at Albury 2 a.m. on Sunday. Extreme barometers and temperature: Clarence, 30·01; Eden, 29·78; Wilcannia, 80°; and Mount Victoria, 63°. Rain at Temora, 0.59; rainfall at Laurieton since Friday, 6.43 inches. For further particulars see map.

3 P.M. OBSERVATIONS.

South Australia.—Adelaide, S.W., 23, fine but cloudy, temperature, 74°.

Victoria.—No telegrams.

New South Wales.—Wilcannia, calm, hot, heavy thunderstorm to eastward; Deniliquin, S.W., 28, stormy, temperature 90°; Eden, N.E., 14, fine, but cloudy, light east sea, temperature 78°; Moruya, N.E., 28, overcast and dull, smooth sea, temperature 78°; Cape St. George, N.W., 28, raining lightly, smooth sea, temperature 71°; Sydney, W.S.W., 12, raining steadily, smooth sea, temperature 70°; Newcastle, N.W., 14, showery, smooth sea, temperature 74°; Port Macquarie, N.N.E., 42, cloudy, moderate sea, temperature 80°; Clarence River, N.E., 42, clearing, lumpy sea, temperature 76°; Walgett, N.W., 14, raining all day, temperature 83°; Bourke, S.W., 14, fine and warm, temperature 89°; Dubbo, S.W., 14, showery, temperature 74°; Forbes, N.E., fine, temperature 81°; Goulburn, N.W., 14, showery, temperature 69°; Bathurst, calm, cloudy, like more rain, temperature 67°. 5.30, heavy thunderstorm at Albury.

Queensland.—Brisbane, N.N.E., 13, overcast and threatening, temperature 75°; Boulia, S.E., 28, fine, temperature 101°.

HEIGHT OF RIVERS ABOVE SUMMER LEVEL.

Macintyre: At Mungindi, stationary, 5ft. Barwon: At Mogil Mogil, rising, 3ft.; at Walgett, rising, 6ft. Namoi: At Walgett, low. Culgoa: At Goodooga, low. Darling: At Brewarrina, low; at Bourke, low; at Louth, stationary, 4ft. 11in.; at Tilpa, falling, 6ft. 6in.; at Wilcannia, falling, 9ft. 1in.; at Menindie, 12ft. 9in.; at Pooncarie, 11ft. 8in.; at Wentworth, 13ft. 3in. Murrumbidgee: At Gundagai, stationary, 3ft.; at Wagga, 2ft. 6in.; at Hay, summer level; at Balranald, 7ft. 8in. Murray: At Albury, 2ft.; at Euston, 13ft.

ASTRONOMICAL MEMORANDA FOR FEBRUARY 14.

Sun rises at 5.36, sets at 6.53; Moon, 7.36 a.m., 8.12 p.m.; Mercury, 6.58 a.m., 7.42 p.m.; Venus, 2.40 a.m., 4.48 p.m.; Mars, 9.46 p.m., 10.38 a.m.; Jupiter, 11.34 p.m., 1.32 p.m.; Saturn, 5.35 p.m., 3.43 a.m. New moon, 12th; full moon, 27th.

High water at Fort Denison: 9.49 a.m., 10.6 p.m.

H. C. RUSSELL,
Government Astronomer.

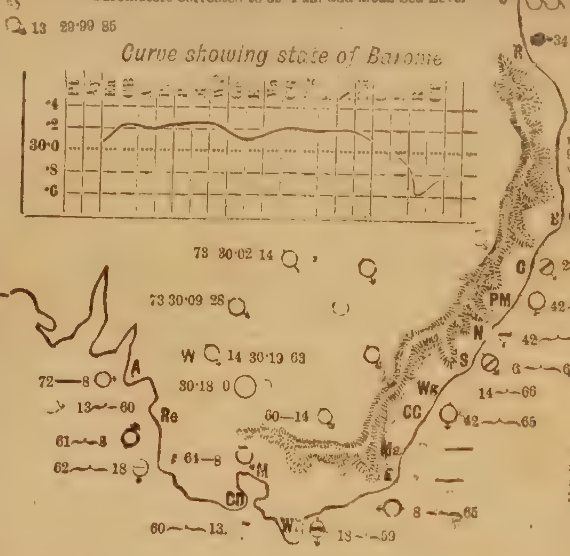
SYDNEY OBSERVATORY.

LATITUDE 33° 51′ 41″ S. LONGITUDE 10h. 4m. 50·8s. E.
MAGNETIC VARIATION, 9° 35′ 37″ E.

Average Annual Rainfall for 29 years..................49·857
Average for 30 years from Jan. 1 to Jan. 31 .... 3·612
Total Rainfall from Jan 1, to Feb. 18 1888 ...... 2·952

Barometers corrected to 32° Fah. and Mean Sea Level

Stations.	W.T.	Mx	Mn	Rn.
Albury ...	b	81	52	0
Armidale	u	78	59	0
Balranald	b	96	58	0
Bathurst	b	78	54	0
Bendem'r	u	83	61	0
Bodalla ..	b	71	61	0
Bourke ..	b	94	60	0
Bungarra	b	79	67	0
C'nd'n H.	c	77	69	0
C. St. Geo.	b	72	57	0
Carcoar ..	b	73	44	0
Casino ..	u	85	68	0·03
Cassilis ..	u	75	62	0
Clarence .	o	84	71	0
C nd'b'lin	b	87	41	0
Cooma ..	c	82	49	0
Coonab'n.	b	88	57	0
Cowra ..	b	90	60	0
Cudg'llico	b	86	—	0
Deniliq'n.	b	86	43	0
Dubbo ..	b	87	58	0
Eden	–	—	—	–
Euston ..	b	86	50	0
Forbes ..	b	—	59	0
G'bo Isl'nd	b	67	57	0
Glen Inn's	g	77	57	0·01
Goulburn	g	77	52	0
Grafton ..	u	87	69	0
Gulgong .	u	78	48	0
Gunned'h	–	—	—	–
Hay	b	80	49	0
Inverell ..	c	82	65	0
Kiandra ..	b	75	40	0
Lismore .	c	82	73	0·01
Maitland .	b	81	59	0
M'n'ng H.	b	73	65	0
Marsdens.	b	83	62	0
Menindie.	b	—	—	0
Molong ..	b	66	49	0
M'r'ng'r'll	b	90	54	0
Moree ..	b	95	66	0·09
Moruya ..	–	—	—	–
Moss Vale	g	64	58	0
Mt. Hope	b	92	55	0
M. Vict'ria	g	73	47	0·05
Mudgee ..	o	86	55	0
M'rr'mb'h	b	83	58	0
M'rr'r'ndi	g	76	63	0
Mus'lbr'k	u	78	60	0
Narrabri	b	94	65	0
Newcastle	c	80	63	0
Orange ..	b	73	55	0
Picton ..	b	70	57	0
P. M'q'rie	b	78	66	0
P. St'ph'n	b	76	59	0
Q'nbeyan	b	76	56	0
Quirindi	c	86	63	0
Singleton	g	78	65	0
SYDNEY ..	g	70	61	0·09
Taralga ..	u	73	50	0
Taree	–	—	—	–
T'nt'rfield	u	83	60	0·02
Wagga ..	b	87	48	0
Walcha ..	u	73	52	0·02
Walgett	b	88	61	0
Warialda	b	86	63	0
Warrah ..	b	80	69	0
W'ntw'rth	b	79	55	0
W'll'ng'ng	b	70	58	0
Young ..	b	89	53	0



Fine, wind N. T-storm, wind S. If it is CALM, the symbol used without the arrow. Smooth sea. Heavy sea. Very heavy sea.

TIME BALL
Drops 1 p.m. Sydney mean time; 2h. 55m. 9·19s. a.m. Greenwich mean time.

SYDNEY STANDARD BAROMETER, 9 a.m., 30·184 inches.

NOTES EXPLANATORY OF MAP.

In the list of stations the column headed W.T. gives the state of the weather at 9 a.m., b, standing for blue sky; c, detached clouds; d, drizzling rain; f, fog; g, gloomy; h, hazy; m, misty; n, frosty; o, overcast; p, passing showers; r, rain; s, snow; t, thunder; u, threatening. The next column M'x gives the maximum temperature for previous 24 hours; M'n the corresponding minimum temperature; R'n, the rain for the previous 24 hours. The symbols used in the map are explained on the margin. At each coast station the wind symbol is placed like a vane pointing to the direction from **which the wind is coming.** A clear circle with it means fine weather; a circle with bar, cloudy weather; and a black spot, raining. Next to this symbol are placed figures denoting the number of miles the wind is moving per hour; next, a symbol showing the state of the sea; and, lastly, figures denoting the shade temperature at 9 a.m. The barometer curve shows the state of barometers round the coast from Perth to Cooktown:—Pt, Perth; Ay, Albany; Ea, Eucla; CB, Cape Borda; A, Adelaide; Re, Robe; P, Portland; M, Melbourne; W P, Wilson's Promontory; Go, Gabo, E, Eden; Ma, Moruya; C G, Jervis Bay; Wg, Wollongong, S, Sydney; N, Newcastle; P M, Port Macquarie; C, Clarence River; B, Brisbane, R Rockhampton; Ct, Cooktown. Inland the state of barometer is given in figures at Albury, Deniliquin, Wentworth, Menindie, Bourke, and Alice Springs. The barometer curve enables one at a glance to trace the depressions, beginning with Western Australia, and passing along eastwards; northerly winds preceding them, and southerly following.

The rainfall on Sundays or holidays, when this map is not published, is in all cases included in the quantities shown by the next following map.

9 A.M. OBSERVATIONS.

Western Australia.—Albany, N.W. wind fresh, fine, sea smooth.

South Australia.—Generally fine and pleasant weather, with light N.E. to S.E. winds and calms, and smooth sea. Rainfall: Yam Creek, 1·00 inch. Extremes of barometers and temperature: Cape Northumberland, 30·23; Port Darwin, 29·83; Alice Springs, 85°, and Cape Borda, 60°.

Victoria.—Fine throughout, clear inland, cloudy on the coast, light S. to S.E. winds and calms, smooth sea, no rain reported. Extremes of barometers and temperature; Cape Otway, 30·25; Echuca, 30·15; Horsham, 69°; and Hamilton, 59°.

Tasmania.—Generally fine, but in south more or less cloudy; light variable winds, chiefly north and westerly; smooth sea. Extremes of barometers and temperature: Circular Heads, 30·16; Hobart, 30·04 and 60°; Falmouth, 62°.

New Zealand.—Showery in south, with S.E. winds; fine to northwards, with light to fresh north-east winds. Barometers: In north, 30·2; over centre, 29·8; in south 29·8.

Queensland.—Squally, with heavy rains up the coast; S.E. to E. winds, strong in Central districts; moderate to rather rough sea. Heavy floods have occurred between Rockhampton and Maryborough. Rockampton reports 10.83in. fallen, and the rain still descending in torrents. Extremes of barometers and temperature: Brisbane, 30·00 and 69°; Rockhampton, 29·63; and Cloncurry, 87°.

New South Wales.—In the eastern divisions north from Cape St. George it is cloudy and threatening rain. Over the remainder of the colony fine, clear weather prevails. Winds are generally light, but in N.E. parts fresh S.S.E., with calms at places. The sea is smooth and moderate and at Clarence Heads lumpy. Very light rains have fallen at scattered places in N.E., and around Sydney, the heaviest fall being 0.09in. at Moree and Sydney. Extremes of barometers and temperature: Wollongong, 30·20; Bourke, 30·02; Walgett, 75°; and Mount Victoria, 52°. For further particulars see map.

3 P.M. OBSERVATIONS.

New South Wales.—Deniliquin, calm, fine, temperature 80°; Eden, E., 14, fine, smooth sea, temperature 70°; Moruya, N.E, 28, fine, smooth sea, temperature 71°; Cape St. George, S.E., 28, fine, smooth sea, temperature 68°; Sydney, S.E., 20, fine, smooth sea; Newcastle, S.S.E., 20, fine, smooth sea, temperature 71°; Port Macquarie, S., 42, fine, smooth sea, temperature 81°; Clarence River, S.E., 10, cloudy, smooth sea, temperature 75°; Walgett, S.E., cloudy, temperature 88°; Bourke S.E., 14, fine, warm, temperature 90°; Dubbo, E., 13, fine, temperature 75°; Forbes, S.E., fine, clear, temperature 89°; Bathurst, calm, fine, temperature 74°.

Victoria.—Portland, S.E., 18, fine, smooth sea, temperature 63.; Cape Otway, S., 18, fine, smooth sea, temperature 67°; Wilson's Promontory, S.S.W., 18, cloudy, smooth sea, temperature 63°.

Queensland.—Townsville, 13, cloudy, temperature 92°; Mackay, S.W., 13, cloudy, temperature 79°; Rockhampton, S.E., heavy rain, temperature 69°; Normanton, S.E., cloudy, temperature 87°; Hughenden, S.E., 34, cloudy, temperature 86°; Boulia, S.E., 34, fine; Thargomindah, S.W., 8, fine, temperature 93°; Roma, S.E., 23, gloomy, temperature 75°; Cloncurry, S.E., 8, fine, temperature 93°. Sunday, at 9 a.m., Rockhampton reports 10·10 in. rain, E.S.E. gale; Cape Moreton, rain 2·34, squally, with rain from E.S.E.

HEIGHT OF RIVERS ABOVE SUMMER LEVEL.

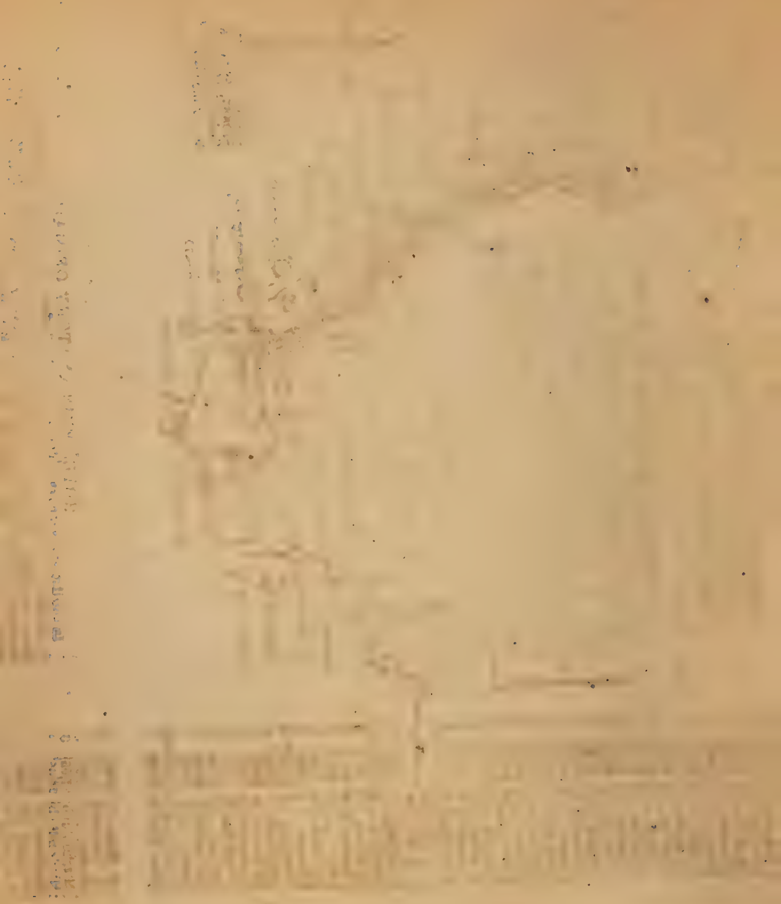
Macintyre: At Mungindi, rising, 14ft. Barwon: At Mogil Mogil, stationary, 16ft.; at Walgett, rising, 15ft. Namoi: At Walgett, rising, 14ft. Culgoa: At Goodooga, low. Darling: At Brewarrina, rising, low; at Bourke, low; at Louth, falling, 4ft. 2in.; at Tilpa, falling, 4ft. 8in.; at Wilcannia, falling, 6ft. 10in.; at Menindie, falling, 10ft. 5in.; at Pooncarie, 11ft.; at Wentworth, 12ft. 6in. Murrumbidgee: At Gundagai, stationary, 3ft.; at Wagga, 2ft. 9in.; at Hay, falling, 1ft. 10in.; at Balranald, 6ft.; Murray: At Albury 2ft.; at Euston, 9ft. 8in.

ASTRONOMICAL MEMORANDA FOR FEBRUARY 20.

Sun rises at 5.41, sets at 6.46; Moon, 12.59 p.m., 11.27 p.m.; Mercury, 7.4 a.m., 7.28 p.m.; Venus, 2.49 a.m., 4.52 p.m.; Mars, 9.25 p.m., 10.20 a.m.; Jupiter, 11.13 p.m., 1.11 p.m.; Saturn, 5.11 p.m., 3.17 a.m. New moon, 12th; full moon, 27th.

High water at Fort Denison: 1.1 a.m., 1.26 p.m.

H. C. RUSSELL,
Government Astronomer.

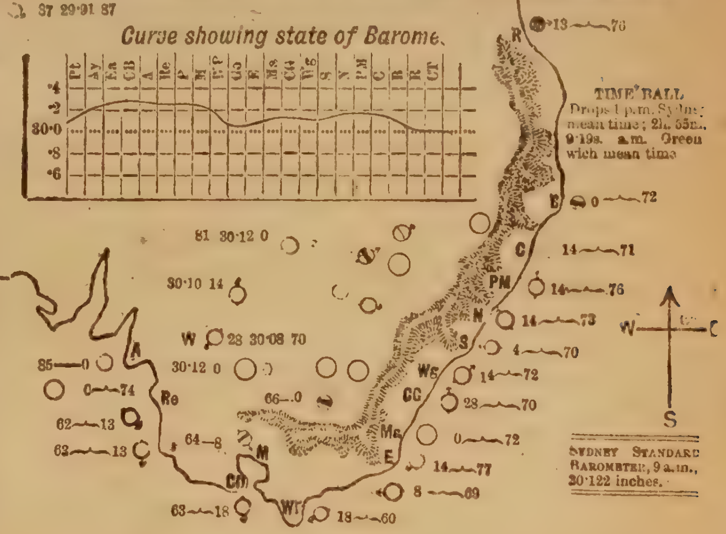


Stations	W.T.	Mx	M'n	R'n
Albury ..	c	93	61	0
Armidale	b	75	57	0
Balranald	b	110	64	0
Bathurst	b	89	49	0
Bendem'r	f	81	57	0
Bodalla ..	b	86	57	0
Bourke .	b	98	69	0
Bundarra	b	78	63	0
C'md'n H.	b	79	66	0
C.St. Geo.	b	77	60	0
Carcoar ..	b	75	45	0
Casino ..	c	77	62	0·01
Cassilis ..	b	77	56	0
Clarence .	b	78	67	0
C nd'b'lin	b	97	51	0
Cooma ..	g	93	49	0
Coonab'n.	b	86	57	0
Cowra ..	b	102	61	0
Cudg'llco	b	95	61	0
Deniliq'n.	b	106	56	0
Dubbo ..	b	92	55	0
Eden	b	79	60	0
Euston ..	b	114	61	0
Forbes ..	b	—	64	0
G'bo Isl'nd	b	81	62	0
Glen Inn's	c	75	65	0
Goulburn	b	95	48	0
Grafton ..	b	85	69	0
Gulgong .	b	82	45	0
Gunned'h	b	87	64	0
Hay	b	100	61	0
Inverell .	b	83	70	0
Kiandra .	b	87	32	0
Lismore .	c	76	66	0·01
Maitland .	b	84	55	0
M'n'ng H.	b	78	60	0
Marsdens.	b	92	71	0
Menindie.	b	—	—	0
Molong ..	b	76	49	0
M'r'ng'r'll	b	92	62	0
Moree ..	g	95	67	0
Moruya ..	b	81	57	0
Moss Vale	b	76	49	0
Mt. Hope	b	102	64	0
M. Vict'ria	b	88	55	0
Mudgee ..	b	92	52	0
M'rr'mb'h	b	91	56	0
M'rr'ndi	b	78	53	0
Mug'lbr'k	b	81	58	0
Narrabri	b	90	69	0
Newcastle	f	77	62	0
Orange ..	b	78	53	0
Picton ..	b	82	49	0
P. M'q'rie	b	82	60	0
P. St'ph'n	b	80	56	0
Q'nbeyan	b	81	63	0
Quirindi	b	89	67	0
Singleton	b	87	61	0
SYDNEY ..	b	76	61	0
Taralga ..	b	89	46	0
Taree	b	84	61	0
T'nt'rfield	n	67	51	0
Wagga ..	b	99	52	0
Walcha ..	f	76	54	0
Walgett	g	92	71	0
Warialda	o	84	65	0
Warrah ..	b	85	60	0
W'ntw'rth	b	105	67	0
W'll'ng'ng	b	80	67	0
Young ..	b	98	54	0

SYDNEY OBSERVATORY.

LATITUDE 33° 51' 41" S. LONGITUDE 10h. 4m. 50·81s. E.
MAGNETIC VARIATION, 9° 35' 37" E.

Average Annual Rainfall for 29 years.................49·857
Average for 30 years from Jan. 1 to Jan 31 .... 3·512
Total Rainfall from Jan 1, to Feb. 21 1888 ...... 2·974
Barometers corrected to 32° Fah. and Mean Sea Level



NOTES EXPLANATORY OF MAP.

In the list of stations the column headed W.T. gives the state of the weather at 9 a.m., b, standing for blue sky; c, detached clouds; d, drizzling rain; f, fog; g, gloomy; h, hazy; m, misty; n, frosty; o, overcast; p, passing showers; r, rain; s, snow; t, thunder; u, threatening. The next column, Mx gives the maximum temperature for previous 24 hours. M'n the corresponding minimum temperature; R'n, the rain for the previous 24 hours. The symbols used in the map are explained on the margin. At each coast station the wind symbol is placed like a vane pointing to the direction from which the wind is coming. A clear circle with it means fine weather; a circle with bar, cloudy weather, and a black spot, raining. Next to this symbol are placed figures denoting the number of miles the wind is moving per hour; next, a symbol showing the state of the sea; and, lastly, figures denoting the shade temperature at 9 a.m. The barometer curve shows the state of barometers round the coast from Perth to Cooktown:—Pt, Perth; Ay, Albany; Ea, Eucla; CB, Cape Borda; A, Adelaide; Re, Robe; P, Portland; M, Melbourne; W P, Wilson's Promontory; Go, Gabo; E, Eden; Ma, Moruya; C G, Jervis Bay; Wg, Wollongong, S, Sydney; N, Newcastle; P M, Port Macquarie; C, Clarence River; B, Brisbane; R Rockhampton; Ct, Cooktown. Inland the state of barometer is given in figures at Albury, Deniliquin, Wentworth, Menindie, Bourke, and Alice Springs. The barometer curve enables one at a glance to trace the depressions, beginning with Western Australia, and passing along eastwards; northerly winds preceding them, and southerly following.

The rainfall on Sundays or holidays, when this map is not published, is in all cases included in the quantities shown by the next following map.

9 A.M. OBSERVATIONS.

Western Australia.—Generally fine, with light variable winds and calms, and smooth to moderate sea. Cloudy at Albany, and sultry at Cossack. Extremes of barometers and temperature: Esperance Bay, 30·22; Ashburton, 29·79; and Cossack, 95·0.

South Australia.—Generally fine and pleasant weather, but cloudy west of Spencer's Gulf: light to fresh S.W. to S.E. winds and smooth sea. No rain reported. Extremes of barometers and temperature: Cape Borda, 30·23; Port Darwin, 29·79; Alice Springs, 87°; and Cape Northumberland, 62°.

Victoria.—Fine, but generally cloudy and sultry, with smoke haze; light and variable winds or calms, smooth sea, no rain fallen. Extremes of barometers and temperature; Cape Otway, 30·29; Lakes Entrance, 30·13; Echuca, 80°; and Wilson's Promontory, 60°.

Tasmania.—Generally fine, clear, and hazy, light variable winds and calms, smooth sea. Extremes of barometers and temperature: Southport, 30·19 and 65°; Hobart, 30·10 and 63°.

New Zealand.—Gloomy at Welllington, and 0·63in. rain fallen; fine in north and south. Generally fresh to strong S.E. to S.W. winds. Strong S.E. wind and rough sea on the N.E. coast. Barometers: In north, 29·8; over centre, 29·9; in south, 30·0.

Queensland.—Still unsettled over south parts, and on the coast north from Rockhampton; fine, but cloudy in W. and N.W. parts; fresh S.E. to E. and E.N.E. winds; moderate sea. Reports incomplete from north parts. Extremes of barometers and temperature: Brisbane, 30.12; Boulia, 29·86; Thargomindah, 88°; and Roma, 69°.

New South Wales.—Along the northern border cloudy and unsettled; on the Upper Murray cloudy and dull at places; over the remainder of the colony fine, clear, warm weather prevails. Winds are generally very light and variable, but chiefly calm. The sea is smooth. Very light rains have fallen on the Richmond River. Extremes of barometers and temperature: Walgett, 30·18; Gabo, 30·01; Wilcannia, 84°; and Armidale, 61°. (For further particulars see map.)

3 P.M. OBSERVATIONS.

South Australia.—Adelaide, S.E., fine, temperature 81°.

New South Wales.—Wilcannia, calm, very hot, temperature 92°; Menindie, S., 14, fine and hot; Wentworth, S., 14, fine and hot, temperature 90°; Deniliquin, N., 14, fine and hot, temperature 93°; Hay, E., 14, fine; Eden, E., 14, fine, light, temperature 73°; Moruya, S.S.E., 14, fine, temperature 75°; Cape St. George, N., 28, fine and sultry, smooth sea, temperature 72°; Sydney, E., 15, fine and hazy, smooth sea, temperature 74°; Newcastle, N.E., 14, fine, smooth sea, temperature 74°; Port Macquarie, N.N.E., 42, fine, smooth sea, temperature 82°; Clarence River, N.E., 14, fine, smooth sea, temperature 80°; Walgett, calm, cloudy, temperature 89°; Bourke calm, like rain, temperature 89°; Dubbo, S.W., 14, fine and clear, temperature 80°; Forbes, N.W., 14, fine and clear, temperature 104°; Goulburn, N.E., 14, fine, temperature 80°; Euston, N., 14, fine, clear, and hot. Afternoon telegrams indicate more unsettled weather in Queensland, and rain threatening in northern part of New South Wales.

Victoria.—Portland, S.E., 23, fine, smooth sea, temperature 66°; Melbourne, S., 13, fine, temperature 68°; Cape Schanck, S.E., 13, fine, smooth sea, temperature 68°; Wilson's Promontory, W.S.W., 13, fine, smooth sea, temperature 62°; Lakes Entrance, W.S., 18, overcast, temperature 73°; Omeo, calm, overcast, temperature 76°.

Queensland.—Townsville, N.E., calm, threatening, smooth sea, temperature 85°; Rockhampton, E., 18, cloudy, temperature 77°; Cape Moreton, E., 23, cloudy, temperature 78°; Brisbane, E.N.E., 13, threatening, temperature 77°; Normanton, N.E., 8, theatening, temperature 85°; Bourketown, N.E., 23, showery; Hughenden, N.E., 13, showery, temperature 88°; Blackall, E., 13, threatening, temperature 93°; Cloncurry, cloudy, stormy, temperature 89°.

HEIGHT OF RIVERS ABOVE SUMMER LEVEL.

Barwon: At Mogil Mogil, falling, 18ft.; at Walgett, rising, 25ft. Namoi: At Walgett, rising, 21ft. Culgoa: At Goodooga, rising, 4ft. Darling: At Brewarrina, rising, 4ft.; at Bourke, low; at Louth, rising, 5ft. 6in.; at Tilpa, falling, 4ft.; at Wilcannia, falling, 5ft 9in.; at Menindie, falling, 9ft.; at Pooncarie, 10ft. 10in.; at Wentworth, 11ft. 3in. Murrumbidgee: At Gundagai, stationary, 3ft.; at Wagga, 2ft. 6in.; at Hay, rising, 1ft. 8in.; at Balranald, 5ft. 11in. Murray: At Albury, 1ft. 11in.; at Euston, 8ft. 8in.

ASTRONOMICAL MEMORANDA FOR FEBRUARY 22.

Sun rises at 4.43, sets at 6.44; Moon, 2.49 p.m., 12.8 a.m.; Mercury, 7.2 a.m., 7.21 p.m.; Venus, 2.53 a.m., 4.53 p.m.; Mars, 9.18 p.m., 10.12 a.m.; Jupiter, 11.6 p.m., 1.4 p.m.; Saturn, 5.3 p.m., 3.9 a.m. New moon, 12th; full moon, 27th.

High water at Fort Denison: 2.56 a.m., 3.33 p.m.

H. C. RUSSELL,
Government Astronomer.

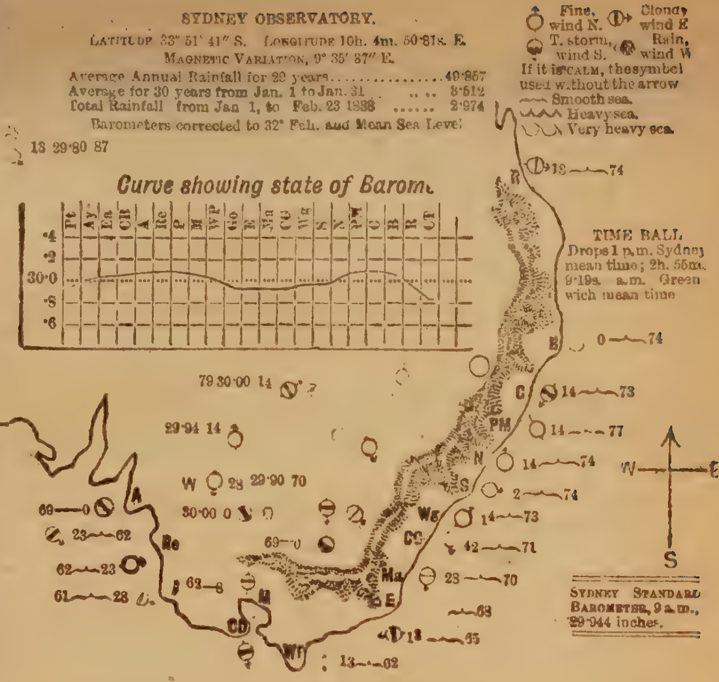
Stations.	W.T.	Mx	m	Rn.
Albury ..	t	99	64	0·21
Armidale	b	78	56	0
Balranald	b	117	64	0
Bathurst	b	90	52	0
Bendem'r	g	86	63	0
Bodalla ..	c	85	55	0
Bourke ..	b	98	69	0
Bundarra	c	81	—	0
C'md'n H.	b	81	68	0
C. St. Geo.	b	79	63	0
Carcoar ..	b	77	48	0
Casino ..	b	86	44	0
Cassilis ..	b	75	62	0
Clarence .	c	82	68	0
C nd'b'lin	b	100	57	0
Cooma ..	c	95	54	0
Coonab'n.	b	91	61	0
Cowra ..	b	101	64	0
Cudg'llico	b	98	66	0
Deniliq'n.	g	108	52	0
Dubbo ..	b	98	56	0
Eden	u	74	65	0
Euston ..	b	109	63	0
Forbes ..	b	—	67	0
G'bo Isl'nd	o	76	65	0
Glen Inn's	b	77	57	0
Goulburn	b	89	50	0
Grafton ..	b	89	62	0
Gulgong .	b	82	48	0
Gunned'h	b	91	65	0
Hay	b	102	68	0
Inverell ..	b	84	61	0
Kiandra .	g	87	40	0
Lismore .	b	89	64	0
Maitland .	b	87	60	0
M'n'ng H.	b	79	66	0
Maredens.	b	96	74	0
Menindie.	u	—	—	0
Molong ..	b	83	52	0
M'r'ng'r'll	c	94	71	0
Moree ..	b	92	64	0
Moruya ..	g	79	65	0
Moss Vale	b	76	56	0
Mt. Hope	b	92	70	0
M. Viet'ria	b	84	54	0
Mudgee ..	b	92	54	0
M'rr'mb'h	c	95	63	0
M'rr'r'ndi	b	77	63	0
Mus'lbr'k	b	84	61	0
Narrabri	b	93	68	0
Newcastle	b	78	64	0
Orange ..	b	77	52	0
Picton ..	b	83	55	0
P. M'q'rie	b	81	65	0
P. St'ph'n	b	83	61	0
Q'nbeyan	b	84	61	0
Quirindi	b	91	70	0
Singleton	b	88	66	0
SYDNEY ..	b	77	64	0
Taralga ..	b	86	50	0
Taree	b	86	65	0
T'nt'rfield	b	83	56	0
Wagga ..	b	102	63	0
Walcha ..	g	80	52	0
Walgett	b	91	67	0
Warialda	b	86	60	0
Warrah ..	b	85	68	0
W'ntw'rth	b	101	64	0
W'll'ng'ng	b	84	64	0
Young ..	b	99	63	0

SYDNEY OBSERVATORY.

LATITUDE 33° 51' 41" S. LONGITUDE 10h. 4m. 50·81s. E.
MAGNETIC VARIATION, 9° 35' 37" E.

Average Annual Rainfall for 29 years .... 49·867
Average for 30 years from Jan. 1 to Jan. 31 .. .. 3·512
Total Rainfall from Jan 1, to Feb. 23 1888 ...... 2·974

Barometers corrected to 32° Feh. and Mean Sea Level



NOTES EXPLANATORY OF MAP.

In the list of stations the column headed W.T. gives the state of the weather at 9 a.m., b, standing for blue sky; c, detached clouds; d, drizzling rain; f, fog; g, gloomy; h, hazy; m, misty; n, frosty; o, overcast; p, passing showers; r, rain; s, snow; t, thunder; u, threatening. The next column, M'x gives the maximum temperature for previous 24 hours; M'n the corresponding minimum temperature; r'n, the rain for the previous 24 hours. The symbols used in the map are explained on the margin. At each coast station the wind symbol is placed like a vane pointing to the direction from which the wind is coming. A clear circle with it means fine weather; a circle with bar, cloudy weather; and a black spot, raining. Next to this symbol are placed figures denoting the number of miles the wind is moving per hour; next, a symbol showing the state of the sea; and, lastly, figures denoting the shade temperature at 9 a.m. The barometer curve shows the state of barometers round the coast from Perth to Cooktown;—Pt, Perth; Ay, Albany; Ea, Eucla; CB, Cape Borda; A, Adelaide; Re, Robe; P, Portland; M, Melbourne; W P, Wilson's Promontory; Go, Gabo; E, Eden; Ma, Moruya; C G, Jervis Bay; Wg, Wollongong, S, Sydney; N, Newcastle; P M, Port Macquarie; C, Clarence River; B, Brisbane; R Rockhampton; Ct, Cooktown. Inland the state of barometer is given in figures at Albury, Deniliquin, Wentworth, Menindie, Bourke, and Alice Springs. The barometer curve enables one at a glance to trace the depressions, beginning with Western Australia, and passing along eastwards; northerly winds preceding them, and southerly following.

The rainfall on Sundays or holidays, when this map is not published, is in all cases included in the quantities shown by the next following map.

9 A.M. OBSERVATIONS.

Western Australia.—Fine along the west coast, cloudy and gloomy in south, light southerly and easterly winds, smooth to moderate sea. Extremes of barometers and temperature: Albany, 29·96 and 67°; Ashburton, 29·78; and Cossack, 93°.

South Australia.—Generally more or less cloudy and cool, light south to south-east winds, moderate sea, no rain reported. Extremes of barometers and temperature: Eucla, 30·02; Port Darwin, 29·75; Alice Springs, 87°; and M'Donald Bay, 61°.

Victoria.—Generally cloudy, gloomy, and unsettled, with thunderstorms and light rain in east parts, light to fresh southerly winds, smooth to moderate sea. Rainfall: 0·18 inches at Lakes Entrance; Melbourne, 0·02 inches. Extremes of barometers and temperature: Portland, 30·05; Echuca, 29·89; Horsham, 73°; and Hamilton, 59°.

Tasmania.—Generally fine, with light to fresh southerly winds and moderate sea. Extremes of barometers and temperature: South Port, 30·10 and 56°; Circular Heads, 30·01; and Falmouth, 64°.

New Zealand.—Generally fine and calm, but in south parts light S.W. winds. Barometers: In north, 30·0; to southward, 29.9.

Queensland.—Still cloudy and unsettled, with fresh E. to N.E. winds generally. Heavy rains have fallen in central and north coast portions; light rains have fallen in south, and thunderstorms have occurred in north. Extremes of barometers and temperature: Brisbane, 30·03; Normanton, 29·73 and 85°; Warwick, 67°.

New South Wales.—In south and S.E. portions cloudy and threatening, with thunderstorms since 6 a.m. at Albury. Over the remainder of the colony fine warm weather prevails, though at places it is more or less cloudy and unsettled. Winds are generally light to fresh, northerly in north parts, south to easterly in south. Albany is the only station reporting rain fallen. Extremes of barometers and temperature: Walgett, 30.05; Cape St. George, 29·85; Wilcannia, 84°; and Kiandra, 64°. (For further particulars see map.)

3 P.M. OBSERVATIONS.

New South Wales.—Wilcannia, N., 28, cloudy and hot, temperature 90°; Wentworth, calm, fine, and hot, temperature 77°; Deniliquin, calm, fine, temperature 80°; Bathurst, calm, fine, temperature 78°; Eden, S.W., 14, overcast and like rain, light east sea, temperature 73°; Moruya, S.W., 42, thunderstorm since 2.30 p.m., with rain, moderate sea, temperature 68°; Cape St. George, S., 56, fine and hazy, smooth sea, temperature 73°; Sydney, S.E., 14, fine and sultry, smooth sea, temperature 78°; Newcastle, N.E., 14, fine, smooth sea, temperature 79°; Clarence River, N.E., 14, fine, smooth sea, temperature 80°; Walgett, N.E., cloudy, temperature 91°; Bourke, E., 28, fine and hot, temperature 94°; Dubbo, N., 14, fine, temperature 81°; Forbes, N., 14, fine and warm, temperature 102°; Kiandra, light thunderstorm at 1 p.m., but no rain, at 4 a heavy thunderstorm and rain.

Victoria.—Portland, S.E., 18, misty, fog threatening, moderate sea, temperature 64°; Melbourne, S.S.W., 13, cloudy; Cape Schanck, S.E., 23, misty, smooth sea, temperature 61°; Wilson's Promontory, E., 35, squally, temperature 61°; Omeo, E., 13, threatening rain, temperature 59°.

Queensland.—Mackay, E., 28, raining, temperature 73°; Rockhampton, E., 13, cloudy, temperature 71°; Cape Moreton, E., 18, cloudy, temperature 70°; Brisbane, N.N.E., 23, fine, but cloudy, temperature 81°; Hughenden, N.E., 18, overcast, temperature 80°; Blackall, N.E., 13, cloudy, like rain, temperature 79°; Roma, N.E., 8, cloudy, temperature 68°.

HEIGHT OF RIVERS ABOVE SUMMER LEVEL.

Macintyre: At Yetman, crossable; at Mungindi, stationary, 14ft. 6in. Barwon: At Mogil Mogil, falling, 16ft.; at Walgett, rising, 23ft. Namoi: At Walgett, rising, 22ft. 6in. Culgoa: At Goodooga, rising, 5ft. Darling: At Brewarrina, rising, 6ft. 6in.; at Bourke, rising, 3ft.; at Louth, rising, 7ft.; at Tilpa, rising, 4ft. 4in.; at Wilcannia, falling, 5ft. 5in.; at Pooncarie, 10ft. 9in.; at Wentworth, 10ft. 6in. Murrumbidgee: At Gundagai, stationary, 3ft.; at Wagga, 2ft. 3in.; at Hay, falling, 1ft. 3in.; at Balranald, 5ft. 8in. Murray: At Albury, 1ft. 4in.; at Euston, 7ft. 6in.

ASTRONOMICAL MEMORANDA FOR FEBRUARY 24.

Sun rises at 5.45, sets at 6.41; Moon, 4.34 p.m., 1.44 a.m.; Mercury, 6.54 a.m., 7.11 p.m.; Venus, 2.57 a.m., 4.54 p.m.; Mars, 9.11 p.m., 10.5 a.m.; Jupiter, 10.58 p.m., 12.57 p.m.; Saturn, 4.55 p.m., 3.1 a.m. New moon, 12th; full moon, 27th.
High water at Port Denison: 5.25 a.m., 5.28 p.m.

H. C. RUSSELL,
Government Astronomer.

Stations.	W.T.	M'x	M'n	R'n
Albury ..	b	75	58	0·53
Armidale	c	77	58	0
Balranald	b	96	60	0·10
Bathurst	b	[illegible]	58	[illegible]·35
Bendem'r	g	83	[illegible]	0·02
Bodalla ..	u	79	62	1·10
Bourke ..	b	90	69	0
Bundarra	b	83	—	0
C'md'n H.	b	81	70	0
C. St. Geo.	r	76	62	0·27
Carcoar ..	b	75	51	0·80
Casino ..	b	88	59	0
Cassilis ..	b	8[illegible]	64	0
Clarence .	b	84	67	0
C nd'b'lin	u	99	51	0·78
Cooma ..	c	81	54	0·15
Coonab'n.	r	90	60	0
Cowra ..	c	8[illegible]	69	1·67
Cudg'llico	–	—	—	–
Deniliq'n.	b	87	50	0
Dubbo ..	b	89	64	0
Eden	u	71	64	0·10
Euston ..	b	96	54	0
Forbes ..	u	—	65	1·76
G'bo Isl'nd	b	76	64	0
Glen Inn's	b	77	54	0
Goulburn	g	77	55	0·36
Grafton ..	b	93	62	0
Gulgong .	u	84	53	0
Gunned'h	b	86	68	0
Hay	b	83	56	0·13
Inverell ..	c	82	66	0
Kiandra ..	b	63	40	0·55
Lismore .	c	86	59	0
Maitland .	c	92	65	1·32
M'n'ng H.	c	82	64	0
Marsdens.	b	78	69	0·34
Menindie.	b	—	—	1·05
Molong ..	g	90	60	1·00
M'r'ng'r'll	b	80	69	0·65
Moree ..	u	85	67	0
Moruya ..	g	78	52	1·46
Moss Vale	u	75	59	0·61
Mt. Hope	u	88	62	0·92
M. Vict'ria	c	89	55	1·45
Mudgee ..	u	88	55	0·20
M'rr'mb'h	b	79	66	0·05
M'rr'r'ndi	c	80	68	0
Mus'lbr'k	u	89	66	0·13
Narrabri	u	89	68	0
Newcastle	c	82	67	0
Orange ..	b	77	58	1·55
Picton ..	b	81	62	0·48
P. M'q'rie	b	79	65	0
P. St'ph'n	u	82	63	0
Q'nbeyan	c	77	58	0·30
Quirindi	u	9[illegible]	72	0
Singleton	u	8[illegible]	69	0·10
Sydney ..	g	76	64	0·53
Taralga ..	u	76	56	0
Taree	c	91	73	0·97
T'nt'rfield	b	83	57	0·15
Wagga ..	b	84	53	0
Walcha ..	o	77	55	0·92
Walgett	r	87	66	0·56
Warialda	b	85	68	0·23
Warrah ..	b	87	67	0
W'ntw'rth	b	82	[illegible]3	0
W'll'ng'ng	c	81	59	1·45
Young ..	b	76	47	0·27

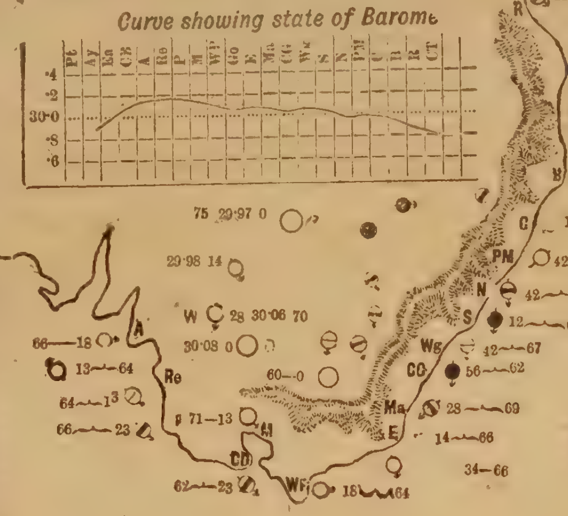
SYDNEY OBSERVATORY.

LATITUDE 33° 51' 41" S. LONGITUDE 10h. 4m. 50·31s. E.

MAGNETIC VARIATION, 9° 35' 37" E.

Average Annual Rainfall for 29 years .... 49·857
Average for 30 years from Jan. 1 to Jan. 31 .... 3·512
Total Rainfall from Jan. 1, to Feb. 25 1878 ...... 3·558

Barometers corrected to 32° Fah. and Mean Sea Level



Fine, wind N. Cloudy wind E. T. storm, wind S. Rain, wind W.
If it is calm, the symbol used without the arrow.
Smooth sea.
Heavy sea.
Very heavy sea.

TIME BALL
Drops 1 p.m. Sydney mean time; 2h. 56m. 9·10s. a.m. Greenwich mean time

N S E W

SYDNEY STANDARD BAROMETER, 9 a.m., 30·011 inches.

NOTES EXPLANATORY OF MAP.

In the list of stations the column headed W.T. gives the state of the weather at 9 a.m., b, standing for blue sky; c, detached clouds; d, drizzling rain; f, fog; g, gloomy; h, hazy; m, misty; n, frosty: o, overcast; p, passing showers; r, rain; s, snow; t, thunder; u, threatening. The next column, M'x gives the maximum temperature for previous 24 hours; M'n the corresponding minimum temperature; r'n, the rain for the previous 24 hours. The symbols used in the map are explained on the margin. At each coast station the wind symbol is placed like a vane pointing to the direction from which the wind is coming. A clear circle with it means fine weather; a circle with bar, cloudy weather; and a black spot, raining. Next to this symbol are placed figures denoting the number of miles the wind is moving per hour; next, a symbol showing the state of the sea; and, lastly, figures denoting the shade temperature at 9 a.m. The barometer curve shows the state of barometers round the coast from Perth to Cooktown:—Pt, Perth; Ay, Albany; Ea, Eucla; CB, Cape Borda; A, Adelaide; Re, Robe; P, Portland; M, Melbourne; W P, Wilson's Promontory; Go, Gabo; E, Eden; Ma, Moruya; C G, Jervis Bay; Wg, Wollongong, S, Sydney; N, Newcastle; P M, Port Macquarie; C, Clarence River; B, Brisbane; R Rockhampton; Ct, Cooktown. Inland the state of barometer is given in figures at Albury, Deniliquin, Wentworth, Menindie, Bourke, and Alice Springs. The barometer curve enables one at a glance to trace the depressions, beginning with Western Australia, and passing along eastwards; northerly winds preceding them, and southerly following.

The rainfall on Sundays or holidays, when this map is not published, is in all cases included in the quantities shown by the next following map.

9 A.M. OBSERVATIONS.

WESTERN AUSTRALIA.—No reports.

South Australia.—Generally fine and pleasant, with light south to east winds, and smooth sea. Extremes of barometers and temperature: Robe, 30·15; Port Darwin, 29·78; Alice Springs, 83°; and Cape Borda, 64°.

Victoria.—Generally fine, but cloudy; in parts inland clear; fresh S.E. to S.W. winds, smooth to moderate sea. Rainfall: Wilson's Promontory, 0·12; Lake's Entrance, 0·50in. Extremes of barometers and temperature: Cape Otway, 30·18 and 62°; Horsham, 30·07 and 74°.

Tasmania.—Generally fine, with light variable winds and calms, and smooth to moderate sea; foggy at Low Heads. Extremes of barometers and temperature: Southport, 30·16; Falmouth, 30·12; Low Heads, 60°; and Circular Heads, 74°.

New Zealand.—Generally fine with light S.E. winds or calms, and barometers at 30·3.

Queensland.—Generally unsettled, though finer in far west; light to fresh S.E. to N.E. winds and smooth to moderate sea. More or less heavy rains have fallen generally, especially from Mackay to Hughenden, and south to Capricon. Extremes of barometers and temperature: Brisbane, 29·93; Townsville, 29·76; Cloncurry, 85°; and Roma, 67°.

New South Wales.—In S. and S.W. parts it is fine; in N.E. more or less cloudy, over the remainder of the colony cloudy, gloomy, or threatening weather prevails, with showers on the central coast, and light rain in the Bligh pastoral district. Winds are generally light to fresh southerly in south, and variable or calm in north; squally southerlies prevail on the central coast. Rains have fallen generally, except in extreme N.E. and S.W. parts; heaviest over central parts, and on the southern coast and mountain districts, where ten scattered stations report from one to over two inches fallen. Extremes of barometers and temperature: Wentworth, 30·06; Clarence, 29·93 and 81°; Kiandra, 51°. (For further particulars see map.)

3 P.M. OBSERVATIONS.

Victoria.—Portland, E.S.E., 28, fine, high barometer, temperature 69°; Cape Otway, S.E., 23, cloudy, smooth sea, temperature 69°; Wilson's Promontory, E.N.E., 23, cloudy, moderate sea, temperature 62°.

New South Wales.—Wentworth, S., fine, temperature 74°; Deniliquin, calm, fine, temperature 81°; Eden, S.S.E., 28, fine, smooth sea, temperature 71°; Moruya, S., 42, fine, smooth sea, temperature 70°; Cape St. George, S., 42, showery, moderate sea, temperature 70°; Sydney, S., 14, showery, moderate sea, temperature 72°; Newcastle, S., 15, cloudy, smooth sea, temperature 72°; Port Macquarie, S., 42, cloudy, rain to N.E., smooth sea, temperature 78°; Clarence River, N.E., 20, fine, smooth sea, temperature 78°; Walgett, S.E., showery, temperature 78°; Bourke, E., 14, warm, temperature 76°; Dubbo, E., 14, thunder and lightning, temperature 75°; Forbes, S.E., fine, temperature 80°; Goulburn, E., fine, temperature 71°; Coonabarabran, light rain most of day; Mungundi at 9 a.m. Sunday reported heavy rain, 5.50 since 3 a.m. still raining heavily; Walgett, rain threatening.

Queensland.—Townsville, S.E., 13, cloudy, smooth sea, temperature 83°; Mackay, S.E., 13, very warm and close, temperature 80°; Rockhampton, E.N.E., 8, showery, temperature 75°; Cape Moreton, E., 23, cloudy, showery, smooth sea, temperature 75°; Blackall, N.E., 13, cloudy, temperature 84°; Thargomindah, S.E., fine, temperature 87°; Roma, E.N.E., 13, showery, temperature 70°; Cloncurry, S.E., 13, cloudy, stormy, temperature 90°. Sunday: Warwick reports steady rain, 0·96, through Saturday night; Blackall, showery, 0·36, during night; Cape Moreton, showery on Sunday.

HEIGHT OF RIVERS ABOVE SUMMER LEVEL.

Macintyre: At Mungindi, stationary, 14ft. 6in. Barwon: At Mogil Mogil, falling, 14ft.; at Walgett, rising, 28ft. 11in. Namoi: At Walgett, rising, 22ft. 10in. Culgoa: At Goodooga, rising, 6ft. Darling: At Brewarrina, rising, 6ft. 6in; at Bourke, rising, 7ft.; at Louth, rising, 7ft. 7in.; at Tilpa, rising, 6ft.; at Menindie, 7ft. 5in.; at Pooncarie, 10ft. 7in.; at Wentworth, 9ft. Murrumbidgee: At Gundagai, rising, 3ft. 3in.; at Wagga, 2ft. 6in.; at Hay, 8in.; at Balranald, 4ft. Murray: At Albury, 1ft. 8in.; at Euston, 6ft. 8in.

ASTRONOMICAL MEMORANDA FOR FEBRUARY 27.

Sun rises at 5.47, sets at 6.38; Moon, 6.8 p.m., 3.42 a.m.; Mercury, 6.41 a.m., 6.56 p.m.; Venus, 3.3 a.m., 4.55 p.m.; Mars, 9.1 p.m., 9.55 a.m.; Jupiter, 10.46 p.m., 12.27 p.m.; Saturn, 4.43 p.m., 2.49 a.m. New moon, 12th; full moon, 27th.

High water at Fort Denison: 8.12 a.m., 8.34 p.m.

H. C. RUSSELL,
Government Astronomer.

Stations	W.T.	Mx	m	Rn
Albury ..	u	88	61	0
Armidale	g	74	56	0
Balranald	c	96	59	0·14
Bathurst	b	83	53	0
Bendem'r	b	79	58	0
Bodalla ..	b	85	55	0
Bourke ..	b	96	63	0
Bundarra	b	88	—	0
C'md'n H.	b	79	69	0·62
C. St. Geo.	b	79	62	0
Carcoar ..	b	74	45	0
Casino ..	r	78	63	0·85
Cassilis ..	o	78	65	0
Clarence .	r	81	72	0·32
C nd'b'lin	b	100	51	0
Cooma ..	c	85	50	0
Coonab'n.	b	88	57	0
Cowra ..	b	95	61	0
Cudg'llico	b	91	61	0
Deniliq'n.	b	100	60	0·04
Dubbo ..	b	91	61	0
Eden	b	74	59	0
Euston ..	c	91	59	0·12
Forbes ..	b	—	64	0
G'bo Isl'nd	-	—	—	-
Glen Inn's	c	75	55	0
Goulburn	b	84	53	0
Grafton ..	r	87	68	0·36
Gulgong .	b	80	49	0
Gunned'h	b	88	62	0·18
Hay	c	97	66	0·08
Inverell ..	b	83	68	0
Kiandra ..	g	80	27	0
Lismore .	r	79	70	1·35
Maitland .	f	84	60	0
M'n'ng H.	b	72	62	0·18
Marsdens.	b	89	69	0
Menindie.	g	—	—	0
Molong ..	b	90	55	0
M'r'ng'r'll	b	87	65	0
Moree ..	b	90	67	0·04
Moruya ..	b	81	59	0
Moss Vale	b	70	60	0
Mt. Hope	b	91	68	0
M. Vict'ria	b	81	45	0
Mudgee ..	b	90	57	0
M'rr'mb'h	b	89	57	0
M'rr'ndi	b	76	63	0
Mus'lbr'k	g	72	61	0
Narrabri	b	89	68	0
Newcastle	f	75	62	0
Orange ..	b	75	54	0
Picton ..	b	81	53	0
P. M'q'rie	r	80	66	0·60
P. St'ph'n	b	80	59	0
Q'nbeyan	b	79	59	0
Quirindi	b	86	57	0·15
Singleton	u	81	65	0
Sydney ..	b	77	64	0
Taralga ..	b	87	51	0
Taree	b	81	61	0·01
T'nt'rfield	o	75	62	0
Wagga ..	[illegible]	[illegible]	56	0
Walcha ..	g	74	57	0·07
Walgett	b	87	63	0
Warialda	b	85	62	0
Warrah ..	b	81	63	0
W'ntw'rth	t	89	50	0·23
W'll'ng'ng	b	82	64	0
Young ..	b	96	56	0

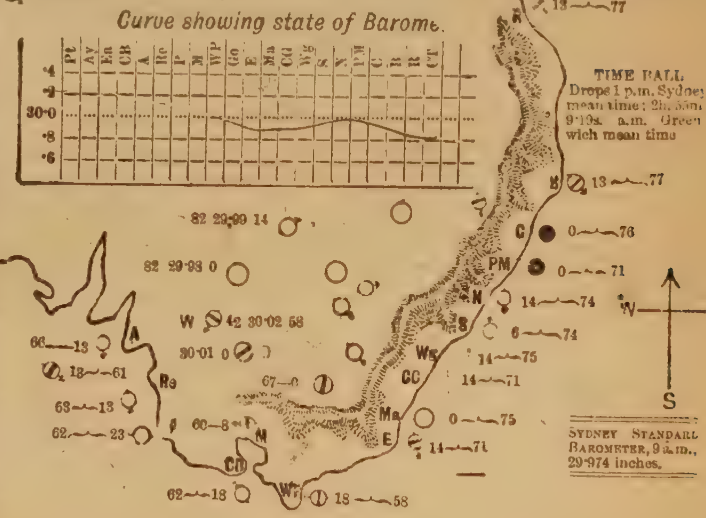
SYDNEY OBSERVATORY.

LATITUDE 33° 51' 41" S. LONGITUDE 10h. 4m. 50·51s. E.

MAGNETIC VARIATION, 9° 35' 37" E.

Average Annual Rainfall for 29 years .... 49·857
Average for 30 years from Jan. 1 to Jan. 31 .... 3·512
Total Rainfall from Jan. 1, to Feb. 28 1888 ...... 3·572

Barometers corrected to 32° Fah. and Mean Sea Level



Fine. wind N. Cloudy wind E. T. storm, wind S. Rain, wind W.
If it is CALM, the symbol used without the arrow
Smooth sea.
Heavy sea.
Very heavy sea.

TIME BALL.
Drops 1 p.m. Sydney mean time; 2h. 55m. 9·19s. a.m. Greenwich mean time

SYDNEY STANDARD BAROMETER, 9 a.m., 29·974 inches.

NOTES EXPLANATORY OF MAP.

In the list of stations the column headed W.T. gives the state of the weather at 9 a.m., b, standing for blue sky; c. detached clouds; d, drizzling rain; f, fog; g, gloomy; h, hazy; m, misty; n, frosty; o, overcast; p, passing showers; r, rain; s, snow; t, thunder; u, threatening. The next column, M'x gives the maximum temperature for previous 24 hours. M'n the corresponding minimum temperature; r'n, the rain for the previous 24 hours. The symbols used in the map are explained on the margin. At each coast station the wind symbol is placed like a vane pointing to the direction from which the wind is coming. A clear circle with it means fine weather; a circle with bar, cloudy weather; and a black spot, raining. Next to this symbol are placed figures denoting the number of miles the wind is moving per hour; next, a symbol showing the state of the sea; and, lastly, figures denoting the shade temperature at 9 a.m. The barometer curve shows the state of barometers round the coast from Perth to Cooktown:—Pt, Perth; Ay, Albany; Ea, Eucla; CB, Cape Borda; A, Adelaide; Re, Robe; P, Portland; M, Melbourne; W P, Wilson's Promontory; Go, Gabo; E, Eden; Ma, Moruya; C G, Jervis Bay; Wg, Wollongong, S, Sydney; N, Newcastle; P M, Port Macquarie; C, Clarence River; B, Brisbane; R Rockhampton; Ct, Cooktown. Inland the state of barometer is given in figures at Albury, Deniliquin, Wentworth, Menindie, Bourke, and Alice Springs. The barometer curve enables one at a glance to trace the depressions, beginning with Western Australia, and passing along eastwards; northerly winds preceding them, and southerly following.

The rainfall on Sundays or holidays, when this map is not published, is in all cases included in the quantities shown by the next following map.

9 A.M. OBSERVATIONS.

Western Australia.—Generally fine, with light easterly winds and smooth sea. Extremes of barometers and temperature: Esperance Bay, 30·21; Carnarvon, 29·81; Cossack, 93°; and Albany, 63°.

South Australia.—Generally fine, with scattered clouds in parts; light to fresh S.W. to S.E. winds; smooth to moderate sea; thunderstorms occurred in parts yesterday. Rainfall: Woodside, 0·19in.; Willingra, 0·11in. Extremes of barometers and temperature: Eucla, 30·19; Port Darwin, 29·73 and 88°; Robe, 63°.

Victoria.—Generally cloudy, and in parts gloomy and threatening; light S. to S.W. winds and calms, smooth sea. Rainfall: Near the coast, from 0·02in. to 0·05in. Extremes of barometers and temperature: Portland, 30·07; Wilson's Promontory, 29·97 and 58°; Echuca, 78°.

Tasmania.—Generally fine, with light to fresh N.E. to E. winds, and smooth to moderate sea; threatening rain at Hobart. Extremes of barometers and temperature: Circular Heads, 29·98 and 59°: Falmouth, 29·82 and 64°.

New Zealand.—Generally fine, but in Cook Strait gloomy; light south to west winds and calms. Barometers: In north, 30·3; over centre, 30·1; in south, 30·0.

Queensland.—Cloudy in S.E. parts; fine, with more or less clouds over the remainder of the colony; light to fresh S.E. to N.E. winds, smooth sea. Thunderstorms have occurred in Southern Cook and North Kennedy districts; light rains have fallen generally. Extremes of barometers and temperature: Brisbane, 29·91; Boulia, 29·77 and 85°; Cape Moreton, 76°.

New South Wales.—In north coast districts it is cloudy and showery. Along the southern border more or less cloudy and like a change, with thunderstorms north of Wentworth. Over the remainder of the colony, fine, clear weather prevails. Winds are generally light and variable, or calm. The sea is smooth. Light rains have fallen in N.E. and S.W. parts. Extremes of barometers and temperature: Wentworth and Forbes, 30·02; Eden, 29·90; Bourke and Wilcannia, 82°; and Cooma, 61°. (For further particulars see map.)

3 P.M. OBSERVATIONS.

Victoria.—Portland, W.S.W., 23, fine, smooth sea, temperature 70°; Cape Otway, W.N.W., 18, cloudy, smooth sea, temperature 68°; Melbourne, S.W., 13, fine, temperature 68°; Cape Schanck, S., cloudy, smooth sea, temperature 68°; Wilson's Promontory, W., 18, fine, smooth sea, temperature 64°; Lakes Entrance, S.W., 23, cloudy, temperature 66°; Omeo, S.S.W., 18, threatening rain, temperature 63°.

New South Wales.—Wilcannia, E., 28, heavy, cloudy, temperature 90°; Menindie, S.E., 28, fine and warm; Wentworth, S.W., 28, fine, temperature 78°; Deniliquin, S.W., 14, fine, temperature 87°; Eden, S.W., 14, fine but cloudy, light east sea, temperature 77°; Moruya, S., 28, thunderstorm passing to N.W. temperature 76°; Cape St. George, 28, S.E., fine but cloudy, like rain, smooth sea, temperature 98°; Sydney, E.N.E., 15, fine and hazy, smooth sea, temperature 77°; Newcastle, E.S.E., 14, fine, smooth sea, temperature 75°; Port Macquarie, N.E., 28, cloudy and unsettled, smooth sea, temperature 81°; Clarence River, E., 14, sultry, smooth sea, temperature 83°; Walgett, calm, cloudy, temperature 89°; Bourke, N.E., 14, fine and hot, temperature 95; Dubbo, S., 28, fine, temperature 82°; Forbes, E., 14, fine, temperature 66°; Goulburn, S.W., 14, fine, temperature 75°; Balranald, calm, fine and hazy; Bathurst, S.W., 14, fine, temperature 85°.

Queensland.—Townsville, N.E., 18, fine, smooth sea, temperature 85°; Mackay, E., 23, hot, gloomy, temperature 82°; Cape Moreton, S.E., 23, cloudy, showery, temperature 75°; Brisbane, S.E., 23, showery, temperature 78°; Hughenden, S.E., 23, fine, hot, temperature 90°; Boulia, S.E., 28, fine, temperature 99°; Blackall, S.E., 13, cloudy, temperature 92°; Thargomindah, S., 8, fine, temperature 94°; Roma, S.E., 8, cloudy, temperature 85°; Cloncurry, S.E., 8, close, but fine, temperature 94°.

HEIGHT OF RIVERS ABOVE SUMMER LEVEL.

Macintyre: At Mungindi, falling, 20ft. 6in. Barwon: At Mogil Mogil, rising, 18ft.; at Walgett, stationary, 30ft. Namoi: At Walgett, rising, 23ft. 6in. Culgoa: At Goodooga, rising, 7ft. Darling: At Brewarrina, rising, 11ft.; at Bourke, rising, 17ft. 6in.; at Louth, rising, 12ft.; at Tilpa, rising, 9ft. 6in.; at Wilcannia, rising, 6ft 11in.; at Menindie, 6ft. 4in.; at Pooncarie, 10ft. 2in.; at Wentworth, 8ft. 3in. Murrumbidgee: At Gundagai, stationary, 3ft.; at Wagga, 2ft. 6in.; at Hay, falling, 1ft. 11in.; at Balranald, 3ft. 6in. Murray: At Albury, 2ft. 3in.; at Euston, 5ft. 8in.

ASTRONOMICAL MEMORANDA FOR FEBRUARY 29.

Sun rises at 5.49, sets at 6.35; Moon, 8.10 p.m., 7.1 a.m.; Mercury, 6.32 a.m., 6.46 p.m.; Venus, 3.7 a.m., 4.56 p.m.; Mars, 8.54 p.m., 9.48 a.m.; Jupiter, 10.39 p.m., 12.40 a.m.; Saturn, 4.34 p.m., 2.40 a.m. New moon, 12th; full moon, 27th.

High water at Fort Denison: 9.37 a.m., 9.57 p.m.

H. C. RUSSELL,
Government Astronomer.

Stations.	W.T.	Mx	M'n	R'n
Albury	b	74	49	0
Armidale	b	70	54	0·06
Balranald	b	87	55	0
Bathurst	b	66	48	0
Bendem'r	b	76	54	0·05
Bodalla	g	70	55	0
Bourke	b	88	61	0
Bundarra	b	74	—	0·02
C'md'n H.	r	72	65	1·00
C. St. Geo.	b	77	60	0
Carcoar	b	67	38	0
Casino	u	88	69	0·02
Cassilis	c	67	58	0
Clarence	u	86	67	0
C nd'b'lin	b	89	43	0
Cooma	o	71	43	0
Coonab'n.	b	74	50	0
Cowra	b	85	57	0
Cudg'llico	b	83	56	0
Deniliq'n.	b	85	47	0
Dubbo	b	83	50	0
Eden	u	70	54	0
Euston	b	83	44	0
Forbes	b	—	55	0
G'bo Isl'nd	c	68	56	0
Glen Inn's	b	60	54	0·28
Goulburn	b	67	45	0
Grafton	c	85	64	0·20
Gulgong	-	—	—	-
Gunned'h	-	—	—	-
Hay	c	79	66	0
Inverell	c	75	60	0·34
Kiandra	n	56	29	0
Lismore	-	—	—	-
Maitland	b	84	58	0
M'n'ng H.	c	67	62	0·83
Marsdens.	b	80	61	0
Menindie.	-	—	—	-
Molong	b	90	46	0
M'r'ng'r'll	b	84	53	0
Moree	b	82	62	0·02
Moruya	g	70	57	0
Moss Vale	b	59	52	0
Mt. Hope	b	86	57	0
M. Vict'ria	b	71	42	0
Mudgee	b	77	48	0
M'rr'mb'h	-	—	—	-
M'rr'r'ndi	b	79	57	0
Mus'lbr'k	b	63	54	0·01
Narrabri	b	81	59	0
Newcastle	b	70	62	0·01
Orange	b	79	48	0
Picton	b	67	50	0
P. M'q'rie	r	73	62	0·92
P. St'ph'n	c	72	59	0·32
Q'nbeyan	b	67	50	0
Quirindi	b	84	60	0
Singleton	b	72	60	0
Sydney	b	69	61	0
Taralga	b	66	45	0
Taree	c	74	63	0·18
T'nt'rfield	u	85	58	0·60
Wagga	b	84	45	0
Walcha	b	64	45	0·03
Walgett	b	84	57	0·50
Warialda	b	78	58	0·28
Warrah	b	65	58	0
W'ntw'rth	b	77	50	0
W'll'ng'ng	b	72	59	0
Young	b	82	48	0

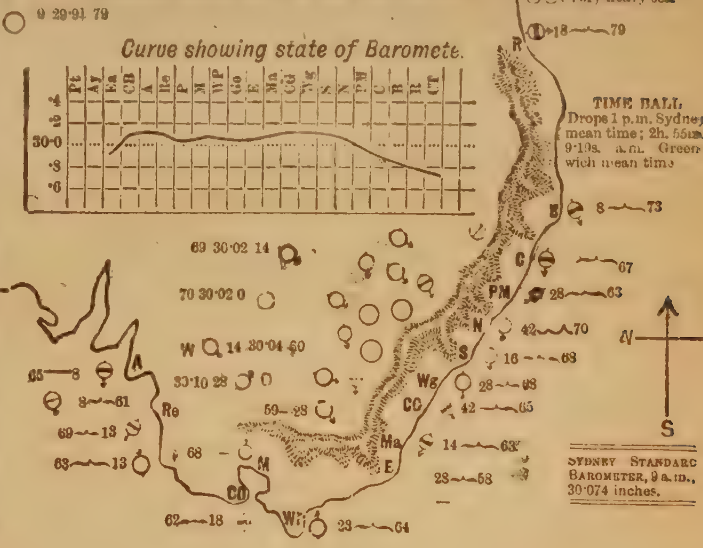
SYDNEY OBSERVATORY

LATITUDE 33° 51' 41" S. LONGITUDE 10h. 4m. 50·81s. E.

MAGNETIC VARIATION, 9° 35' 37" E.

Average Annual Rainfall for 29 years .... 49·857
Average for 30 years from Jan. 1 to Jan. 31 ..... 8·961
Total Rainfall from Jan. 1, to March 3 1888 ...... 4·198

Barometers corrected to 32° Fah. and Mean Sea Level



Fine. wind N. Cloudy wind E
T. storm, wind S. Rain, wind W
If it is CALM, the symbol used without the arrow
Smooth sea.
Heavy sea.
Very heavy sea.

TIME BALL.
Drops 1 p.m. Sydney mean time; 2h. 55m. 9·19s. a.m. Greenwich mean time

SYDNEY STANDARD BAROMETER, 9 a.m., 30·074 inches.

NOTES EXPLANATORY OF MAP.

In the list of stations the column headed W.T. gives the state of the weather at 9 a.m., b, standing for blue sky; c, detached clouds; d, drizzling rain; f, fog; g, gloomy; h, hazy; m, misty; n, frosty: o, overcast; p, passing showers; r, rain; s, snow; t, thunder; u, threatening. The next column, M'x gives the maximum temperature for previous 24 hours; M'n the corresponding minimum temperature; r'n, the rain for the previous 24 hours. The symbols used in the map are explained on the margin. At each coast station the wind symbol is placed like a vane pointing to the direction from which the wind is coming. A clear circle with it means fine weather; a circle with bar, cloudy weather; and a black spot, raining. Next to this symbol are placed figures denoting the number of miles the wind is moving per hour; next, a symbol showing the state of the sea; and, lastly, figures denoting the shade temperature at 9 a.m. The barometer curve shows the state of barometers round the coast from Perth to Cooktown:—Pt, Perth; Ay, Albany; Ea, Eucla; CB, Cape Borda; A, Adelaide; Re, Robe; P, Portland; M, Melbourne; W P, Wilson's Promontory; Go, Gabo; E, Eden; Ma, Moruya; C G, Jervis Bay; Wg, Wollongong, S, Sydney; N, Newcastle; P M, Port Macquarie; C, Clarence River; B, Brisbane; R Rockhampton Ct, Cooktown. Inland the state of barometer is given in figures at Albury, Deniliquin, Wentworth, Menindie, Bourke, and Alice Springs. The barometer curve enables one at a glance to trace the depressions, beginning with Western Australia, and passing along eastwards; northerly winds preceding them, and southerly following.

The rainfall on Sundays or holidays, when this map is not published, is in all cases included in the quantities shown by the next following map.

9 A.M. OBSERVATIONS.

South Australia.—Generally overcast and gloomy south of about Burra, fine over the remainder of the colony, light S.E. to S.W. winds, smooth sea. Extremes of barometers and temperature: Streaky Bay, 30·13; Port Darwin, 29·80; Daly Waters, 86°; and Cape Northumberland, 60°.

Victoria.—Generally fine and clear, or light scattered clouds, light and variable winds inland, light northerlies on the coast, and smooth to moderate sea. Extremes of barometers and temperature: Echuca, 30·14; Horsham, 30·03 and 68°; Lakes Entrance, 58°.

Tasmania.—Generally fine, with clouds at places; light N.E. to N.W. winds and calms, smooth sea. Extremes of barometers and temperature: Low Heads, 30·13; Southport 30·06; Falmouth, 64°; and Hobart, 58°.

Queensland.—Generally more or less cloudy and unsettled; fresh to strong S.E. to N.E. winds, moderate sea; heavy rains have fallen generally over the Downs and Moreton districts; thunderstorms have occurred in Southern Bourke, and light rains have fallen over the Peninsula and at isolated places in the north. Extremes of barometers and temperature: Boulia, 29·89; Cooktown, 29·72; Cloncurry, 92°; and Cape Moreton, 71°.

New South Wales.—In N.E. parts cloudy, and at places showery; in S.E. cloudy and unsettled, in central coast districts clearing; west of the dividing ranges fine, clear, cool weather prevails; Kiandra reports frost; winds are generally light to fresh, and on the north coast rather strong from S.W. to S.E.; the sea is rough between Newcastle and Port Macquarie, moderate elsewhere; rains have fallen east and north of a line joining Walgett and Newcastle; heaviest, 1·00in., at Camden Haven. Extremes of barometers and temperature: Albury, 30·15; Clarence, 29·93; Warialda, 75°; and Kiandra, 50°. (For further particulars see map).

3 P.M. OBSERVATIONS.

Victoria.—Portland, S.W., 23, cloudy, smooth sea, temperature 63°; Cape Otway, S., 13, cloudy, smooth sea, temperature 67°; Wilson's Promontory, N.E., 13, cloudy, smooth sea, temperature 65°.

New South Wales.—Wilcannia, S., 28, fine, warm, temperature 80°; Eden, N.E., 14, fine, smooth sea, temperature 69°; Moruya, S.E., 14, fine, smooth sea, temperature 69°; Cape St. George, S.E., 18, fine, moderate sea, temperature 69°; Newcastle, S., 20, fine, moderate sea, temperature 70°; Port Macquarie, S., 18, showery, moderate sea, temperature 75°; Bourke, S., 14, fine, temperature 65°; Dubbo, N.W., fine, temperature 73°; Forbes, S.W., fine, clear, temperature 83°.

Queensland.—Townsville, S.E., 18, fine, warm, temperature 86°; Mackay, S.E., 13, fine, warm, temperature 87°; Rockhampton, E., 8, fine, temperature 85°; Cape Moreton, E.S.E., 34, showery, with squalls, moderate sea, temperature 72°; Hughenden, S.W., 34, fine, hot, temperature 89°; Boulia, S.E., 34, fine; Blackall, N.E., 13, cloudy, temperature 89°; Thargomindah, S.E., fine, temperature 87°; Roma, E.S.E., 18, cloudy, temperature 81°; Cloncurry, S.S.E., 23, fine, temperature 89°.

HEIGHT OF RIVERS ABOVE SUMMER LEVEL.

Macintyre: At Mungindi, falling, 14ft. Barwon: At Mogil Mogil, falling, 21ft.; Walgett, rising, 30ft. Namoi: At Walgett, rising, 24ft. 6in. Culgoa: At Goodooga, rising, 8ft. 3in. Darling: At Brewarrina, rising, 13ft.; at Bourke, rising, 20ft.; at Louth, rising, 16ft. 6in.; at Tilpa, rising, 16ft.; at Wilcannia, rising, 11ft.; at Wentworth, 7ft. 3in. Murrumbidgee: At Gundagai, stationary, 3ft.; at Wagga, 2ft. 3in.; at Hay, below summer level; at Balranald, 3ft. Murray: At Albury, 1ft. 8in.; at Euston, 4ft. 9in.

ASTRONOMICAL MEMORANDA FOR MARCH 5.

Sun rises at 5.54, sets at 6.29; Moon, 11.47 p.m., 12.35 p.m.; Mercury, 5.43 a.m., 6.6 p.m.; Venus, 3.17 a.m., 4.58 p.m.; Mars, 8.34 p.m., 9.28 a.m.; Jupiter, 10.21 p.m., 12.21 p.m.; Saturn, 4.13 p.m., 2.19 a.m. New moon, 13th; full moon, 28th.

High water at Fort Denison: 12.54 a.m., 1.21 p.m.

H. C. RUSSELL,
Government Astronomer.

Stations.	W.T.	Mx	M'n	R'n
Albury ..	c	64	53	0
Armidale	b	69	44	0
Balranald	b	87	55	0
Bathurst	b	65	44	0
Bendem'r	b	76	45	0
Bodalla	b	75	44	0
Bourke	b	84	51	0
Buncarra	b	76	43	0
C'md'n H.	c	79	60	0
C. St. Geo.	b	70	52	0
Carcoar..	b	62	49	0
Casino ..	b	90	57	0
Cassilis ..	b	69	47	0
Clarence .	b	87	67	0
C nd'b'lin	b	87	37	0
Cooma ..	c	66	41	0·10
Coonab'n.	b	79	46	0
Cowra ..	b	73	49	0
Cudg'llico	b	88	43	0
Deniliq'n.	g	73	45	0
Dubbo ..	b	73	40	0
Eden	r	62	51	0·45
Euston ..	b	77	50	0
Forbes ..	b	—	40	0
G'bo Isl'nd	c	60	47	0·80
Glen Inn's	b	70	44	0
Goulburn	b	62	40	0
Grafton ..	b	96	57	0
Gulgong .	-	—	—	-
Gunned'h	b	84	51	0
Hay ..	b	74	46	0
Inverell. .	b	76	46	0
Kiandra. .	n	57	29	0·22
Lismore .	b	91	65	0
Maitland .	b	79	54	0
M'n'ng H.	b	77	58	0
Marsdens.	b	72	55	0
Menindie.	b	-	—	0
Molong ..	b	81	39	0
M'r'ng'r'll	b	72	52	0
Moree ..	b	85	55	0
Moruya . .	b	74	51	0
Moss Vale	b	65	44	0
Mt. Hope	b	75	51	0
V ct'ria	b	64	40	0
Mudgee . .	b	81	40	0
M'rr'mb'h	b	69	45	0
M'rr'r'ndi	b	73	52	0
Mus'lbr'k	b	72	45	0
Narrabri	b	91	52	0
Newcastl	b	79	55	0
Orange ..	b	59	44	0
Picton ..	b	69	43	0
P. M'q'rie	b	80	51	0
P. St'ph'n	b	67	43	0
Q'nbeyan	b	64	44	0
Quirindi	b	80	58	0
Singleton	b	81	68	0
SYDNEY ..	b	74	56	0
Taralga . .	b	66	40	0
Taree	b	85	56	0
T'nt'rfield	b	72	43	0
Wagga ..	b	70	40	0
Walcha ..	n	65	36	0
Walgett	b	79	50	0
Warialda	-	—	—	-
Warrah . .	b	74	49	0
W'ntw'rth	b	75	53	0
W'll'ng'ng	b	72	53	0
Young ..	b	80	40	0

SYDNEY OBSERVATORY.

LATITUDE 33° 51' 41" S. LONGITUDE 10h. 4m. 50·8s. E.

MAGNETIC VARIATION, 9° 35' 37" E.

Average Annual Rainfall for [illegible] years .... 49·857
Average for 30 years from Jan. 1 to Jan. 31 .... 8·961
Total Rainfall from Jan. 1, to March 10 1888 ...... 4·198

Barometers corrected to 32 Fah. and Mean Sea Level

NOTES EXPLANATORY OF MAP.

In the list of stations the column headed W.T. gives the state of the weather at 9 a.m., b, standing for blue sky; c, detached clouds; d, drizzling rain; f, fog; g, gloomy; h, hazy; m, misty; n, frosty; o, overcast; p, passing showers; r, rain; s, snow; t, thunder; u, threatening. The next column, M'x gives the maximum temperature for previous 24 hours. M'n the corresponding minimum temperature; r'n, the rain for the previous 24 hours. The symbols used in the map are explained on the margin. At each coast station the wind symbol is placed like a vane pointing to the direction from which the wind is coming. A clear circle with it means fine weather; a circle with bar, cloudy weather; and a black spot, raining. Next to this symbol are placed figures denoting the number of miles the wind is moving per hour; next, a symbol showing the state of the sea; and, lastly, figures denoting the shade temperature at 9 a.m. The barometer curve shows the state of barometers round the coast from Perth to Cooktown:—Pt, Perth; Ay, Albany; Ea, Eucla; CB, Cape Borda; A, Adelaide; Re, Robe; P. Portland; M, Melbourne; W P, Wilson's Promontory; Go, Gabo; E, Eden; Ma, Moruya; C G, Jervis Bay; We, Wollongong; S, Sydney; N, Newcastle; P M, Port Macquarie; C Clarence River; B, Brisbane; R Rockhampton; Ct, Cooktown. Inland the state of barometer is given in figures at Albury, Deniliquin, Wentworth, Menindie, Bourke, and Alice Springs. The barometer curve enables one at a glance to trace the depressions beginning with Western Australia and passing along eastwards; northerly winds preceding them, and southerly following.

The rainfall on Sundays or holidays, when this map is not published, is in all cases included in the quantities shown by the next following map.

9 A.M. OBSERVATIONS.

Western Australia.—Fine warm weather, calms, and light easterly winds.

South Australia.—Generally fine inland and west of Cape Borda; light S.E. to S. winds and calms, overcast, and more or less gloomy on and near the coast; light rain in extreme S.E., light S.E. to S.W. winds and calms; smooth sea. Extremes of barometers and temperature: Cape Borda, 30·33 and 59°; Port Darwin, 29·92 and 86°.

Victoria.—Overcast and gloomy in east; showery in west parts; fresh, squally, W. to S.W. winds, moderating sea, but still rough at Cape Schanck; light rains have fallen generally—heaviest, 0·24in. at Cape Schanck. Extremes of barometers and temperature: Horsham, 30·24 and 67°; Wilson's Promontory, 30·04 and 56°.

Tasmania.—Generally more or less cloudy and unsettled, light to fresh N.W. to W. winds, smooth to moderate sea. Rainfall: 0·38in. at Southport. Extremes of barometers and temperature: Falmouth, 29·99; Hobart, 29·83 and 53°; Southport, 56°.

New Zealand.—Fine in north and over the centre with light N.W. winds; gloomy and calm in N.E.; showery in south, with S.W. winds; showery on the S.W coast. Barometers: In north, 29·7 to 29·8; over centre, 29·5; in south, 29·3.

Queensland.—Fine south of the tropic; light to fresh S E. to S.W. winds; smooth sea. Reports from the north incomplete. Extremes of barometers and temperature: Thargomindah, 30·16; Cape Moreton, 29·95; Townsville, 87°; and Warwick, 61°.

New South Wales.—It is generally fine, clear, and cool, but in extreme S. E. more or less cloudy, and at Eden showery. Winds are generally light to fresh S. W. to southerly, and at places calm. The sea is smooth to moderate, but at places rough. Light rains have fallen in extreme S. E.; heaviest, 0·80in., at Gabo Island. Extremes of barometers and temperature: Wilcannia, 30·25; Gabo, 29·91; Clarence, 71°; and Cooma, 47°. For further particulars see map.

3 P.M. OBSERVATIONS.

Victoria.—Portland, W.S.W, 30, misty, smooth sea, temperature 62°; Cape Otway, W.N.W., 34, misty, moderate sea, temperature 62°; Wilson's Promontory, W., 23, squally, misty, moderate sea, temperature 60°.

New South Wales.—Wilcannia, S., 28, fine, clear, temperature 74°; Wentworth, S.W., 28, fine, temperature 68°; Deniliquin, S.W., 14, cloudy, temperature 69°; Eden, S.W., 28, fine, smooth sea, temperature 69°; Moruya, N.E., 14, fine, smooth sea, temperature 66°; Cape St. George, S.E., 28, fine, little S.E. sea, temperature 65°; Sydney, S.E., 14, fine, clear, temperature 66°; Newcastle, S., 10, fine, moderate sea, temperature 68°; Port Macquarie, S., 28, fine, smooth sea, temperature 76°; Clarence River, S., 20, fine, smooth sea, temperature 74°; Dubbo, W., 14, fine, temperature 67°; Goulburn, W., 10, fine, temperature 64°; Bathurst, calm, fine, clear, temperature 73°.

Queensland.—Townsville, S.E., 13, fine, smooth sea, temperature 89°; Rockhampton, S.W., 28, fine, temperature 81°; Cape Moreton, S.E., 23, fine, smooth sea, temperature 77°; Normanton, S.E., 8, fine, temperature 100°; Boulia, S.E., 28, fine; Blackall, S.E., 28, fine, clear, temperature 85°; Cloncurry, S.E., 8, fine, warm temperature 90°.

HEIGHT OF RIVERS ABOVE SUMMER LEVEL.

Macintyre: At Mungindi, stationary, 6ft. **Barwon**: At Mogil Mogil, falling, 12ft. 6in.; at Walgett, falling, 33ft. **Namoi**: At Walgett, falling, 20ft. **Culgoa**: At Goodooga, rising, 7ft. 5in. **Darling**: At Brewarrina, rising, 14ft. 9in.; at Bourke, rising, 22ft. 11in.; at Louth rising, 20ft. 3in.; at Tilpa, rising, 21ft. 10in.; at Wilcannia, rising, 18ft. 10in.; at Menindie, rising, 14ft.; at Wentworth, 6ft. 4in. **Murrumbidgee**: At Gundagai, stationary, 3ft.; at Wagga, 2ft.; at Hay, summer level; at Balranald, 2ft. **Murray**: At Albury, 1ft. 6in.; at Euston, 4ft. 6in.

ASTRONOMICAL MEMORANDA FOR MARCH 12.

Sun rises at 5.59, sets at 6.20; Moon, 5.27 a.m., 6.11 p.m.; Mercury, 4.46 a.m., 5.27 p.m.; Venus, 3.30 a.m., 4.57 p.m.; Mars, 8.5 p.m., 8.59 a.m.; Jupiter, 9.54 p.m., 11.54 p.m.; Saturn, 3.45 p.m., 1.51 a.m. New moon, 13th; full moon, 28th.

High water at Fort Denison: 8.11 a.m., 8.29 p.m.

H. C. RUSSELL,
Government Astronomer.

SYDNEY OBSERVATORY.

LATITUDE 33° 51' 41" S. LONGITUDE 10h. 4m. 49·54s. E.

MAGNETIC VARIATION, 9° 35' 37" E.

Average Annual Rainfall for 29 years.............. 49·857
Average for 30 years from Jan. 1 to Jan. 31 ..... 8·961
Total Rainfall from Jan. 1, to March 14th ..... 4·208

Barometers corrected to 32 Fah. and Mean Sea Level

Fine, wind N. Cloudy, wind E. T. storm, wind S. Rain, wind W.
If it is CALM, the symbol used without the arrow
Smooth sea.
Heavy sea.
Very heavy sea.

Stations.	W.T.	Mx	M'n	R'n.
Albury ..	b	73	47	0
Armidale	b	74	53	0
Balranald	b	95	55	0
Bathurst	b	82	45	0
Bendem'r	b	81	47	0
Bodalla ..	b	74	46	0
Bourke ..	b	93	59	0
Bundarra	b	71	—	0
C'md'n H.	r	79	62	0·43
C. St. Geo.	c	73	58	0
Carcoar ..	b	63	39	0
Casino ..	b	92	64	0
Cassilis ..	c	72	63	0
Clarence .	c	87	65	0
C nd'b'lin	b	86	39	0
Cooma ..	c	74	45	0
Coonab'n.	b	86	44	0
Cowra ..	b	89	51	0
Cudg'llico	b	91	46	0
Deniliq'n.	b	83	39	0
Dubbo ..	b	90	50	0
Eden	b	69	53	0
Euston ..	b	87	43	0
Forbes ..	b	—	51	0
G'bo Isl'nd	b	64	56	0
Glen Inn's	b	77	44	0
Goulburn	b	83	50	0
Grafton ..	b	96	63	0
Gulgong ..	u	80	48	0
Gunned'h	b	86	62	0
Hay	b	83	48	0
Inverell ..	b	78	56	0
Kiandra ..	f	74	28	0
Lismore ..	b	93	68	0
Maitland .	b	83	61	0
M'n'ng H.	c	75	62	0·60
Marsdens.	b	82	57	0
Menindie.	b	—	—	0
Molong ..	b	87	44	0
M'r'ng'r'll	b	81	63	0
Moree ..	b	94	57	0
Moruya ..	b	71	59	0
Moss Vale	u	72	57	0
Mt. Hope	b	91	56	0
M. Vict'ria	b	75	45	0
Mudgee ..	c	91	54	0
M'rr'mb'h	b	83	47	0
M'rr'r'ndi	f	77	58	0
Mus'lbr'k	b	83	60	0
Narrabri	b	82	56	0
Newcastle	c	81	66	0
Orange ..	b	69	49	0
Picton ..	c	88	58	0
P. M'q'rie	c	79	65	0·26
P. St'ph'n	g	73	62	0
Q'nbeyan	c	77	58	0
Quirindi	b	87	62	0
Singleton	b	90	74	0
SYDNEY ..	c	77	64	0·01
Taralga ..	b	84	49	0
Taree	r	86	64	0·15
T'nt'rfield	b	84	49	0
Wagga ..	b	85	40	0
Walcha ..	u	75	44	0
Walgett	b	84	50	0
Warialda	b	85	53	0
Warrah ..	b	82	55	0
W'ntw'rth	b	81	53	0
W'll'ng'ng	b	79	58	0
Young ..	b	94	47	0

Curve showing state of Barom.

TIME BALL.
Drops 1 p.m. Sydney mean time; 2h. 55m. 9·19s. a.m. Greenwich mean time.

SYDNEY STANDARD BAROMETER, 9 a.m.
30·165 inches.

NOTES EXPLANATORY OF MAP.

In the list of stations the column headed W.T. gives the state of the weather at 9 a.m., b, standing for blue sky; c, detached clouds; d drizzling rain; f, fog; g, gloomy; h, hazy; m, misty, n, frosty; o, overcast; p, passing showers; r, rain; s, snow; t, thunder; u, threatening. The next column, M'x gives the maximum temperature for previous 24 hours; M'n the corresponding minimum temperature; r'n, the rain for the previous 24 hours. The symbols used in the map are explained on the margin. At each coast station the wind symbol is placed like a vane pointing to the direction from which the wind is coming. A clear circle with it means fine weather; a circle with bar, cloudy weather; and a black spot, raining. Next to this symbol are placed figures denoting the number of miles the wind is moving per hour; next, a symbol showing the state of the sea; and, lastly, figures denoting the shade temperature at 9 a.m. The barometer curve shows the state of barometers round the coast from Perth to Cooktown:—Pt, Perth; Ay, Albany; Ea, Eucla; CB, Cape Borda; A, Adelaide; Re, Robe; P, Portland; M, Melbourne; W P, Wilson's Promontory; Go, Gabo; E, Eden; Ma, Moruya; C G, Jervis Bay; Wg, Wollongong, S, Sydney; N, Newcastle; P M, Port Macquarie; C, Clarence River; B, Brisbane; R Rockhampton; Ct, Cooktown. Inland the state of barometer is given in figures at Albury, Deniliquin, Wentworth, Menindie, Bourke, and Alice Springs. The barometer curve enables one at a glance to trace the depressions beginning with Western Australia, and passing along eastwards; northerly winds preceding them, and southerly following.

The rainfall on Sundays or holidays, when this map is not published, is in all cases included in the quantities shown by the next following map.

9 A.M. OBSERVATIONS.

Western Australia.—On the south coast cloudy, gloomy, and threatening rain, with light westerly winds and smooth sea. From the west coast no reports, except Perth, where it is fine and calm. Extremes of barometers and temperature: Perth, 30·11; Esperance Bay, 30·01 and 69°; Albany, 66°.

South Australia.—Generally fine and pleasant, with light S.E. to N.E. winds and calms and smooth sea. Extremes of barometers and temperature: Robe, 30·12 and 56°; Eucla, 29·96; and Daly Waters, 82°.

Victoria.—Generally fine inland; cloudy on the coast; light S.W. to S.E. winds and calms; smooth to moderate sea. Extremes of barometers and temperature: Cape Otway, 30·18; Portland, 30·10; Horsham, 64°; and in the east parts, generally 57°.

Tasmania.—Generally fine, but at Hobart misty rain; light to fresh N. to W. winds; smooth to moderate sea. Rainfall: Southport, 0·03in.. Extremes of barometers and temperature: Low Heads, 30 03 and 59°; Falmouth, 68°; and Hobart, 29·90.

New Zealand.—Strong S.W. winds and rough sea on the west coast; showery in extreme south; fine to northward; generally squally N.W. to S.W. winds. Barometers: In north, 29·9; over centre, 29·5; in south, 29·2.

Queensland.—Generally fine, except at a few places in the southern coast districts, where it is gloomy and showery; light to fresh N.E. to S.E. winds; smooth sea. Rainfall: Gympie, 0·54; Caboolture, 0·07in.; Inskip Point, 0·22in. Extremes of barometers and temperature: Brisbane, 30·14; Cooktown, 29·99; Thursday Island, 84°; and Warwick, 72°.

New South Wales.—On the central, coast, and adjoining mountain districts it is more or less cloudy and gloomy, with showers on the Manning River. Over the remainder of the colony it is fine, clear, and cool. Winds are generally very light and variable or calm; on the coast chiefly N.E. to south-easterly. Light rains have fallen between the Hastings and Manning Rivers; heaviest, 0·60in., at Manning Heads. Extremes of barometers and temperature: Port Macquarie, 30.19; Gabo Island, 30·06; Bourke, 75°; and Kiandra 53°.

3 P.M. OBSERVATIONS.

Victoria.—Portland, S., 13, fine, smooth sea, temperature 64°; Cape Otway, W., 23, fine, smooth sea, temperature 63°; Melbourne, S., 8, fine, temperature 67°; Cape Schanck, calm, cloudy, smooth sea, temperature 62°; Wilson's Promontory, W.S.W., 18, fine, cloudy, smooth sea, temperature 61°; Lakes Entrance, S.W, 13, cloudy, temperature 67°; Omeo, N.N.W., 13, gloomy, temperature 73°.

New South Wales.—Wilcannia, calm, fine, temperature 81°; Wentworth, N., 14, fine, temperature 73°; Deniliquin, S.W., 14, fine, temperature 75°; Eden, N.E., 14, fine, smooth sea, temperature 67°; Moruya, N.E., 42, fine, smooth sea, temperature 72°; Cape St. George, N., 56, fine, moderate sea, temperature 70°; Sydney, N.E., 21, fine, moderate sea, temperature 72°; Newcastle, E.S.E., 28, fine, moderate sea, temperature 75°; Port Maquarie, N.E., 14, showery, smooth sea, temperature 77°; Clarence River, E.S.E., 42, cloudy, moderate sea, temperature 79°; Walgett, S.W., 14, fine and clear, temperature 87°; Bourke, calm, fine, clear, hot, temperature 93°; Dubbo, N., 14, fine, temperature 75°; Forbes, calm, fine, temperature 90°; Goulburn, calm, fine, temperature 70°; Bathurst, calm, fine, temperature 74°.

Queensland.—Mackay, E., 13, cloudy, temperature 82°; Rockhampton, E., 13, fine, temperature 98°; Cape Moreton, S.S.E., 18, fine, smooth sea, temperature 74°; Brisbane, E., 8, overcast, and warm, temperature 77°; Hughenden, S.E., 8, cloudy, temperature 89°; Boulia, N.E., 13, fine, temperature 97°; Blackall, S.W., 8, fine, temperature 91°; Cloncurry, S.E., 13, fine, and warm, temperature 95°.

HEIGHT OF RIVERS ABOVE SUMMER LEVEL.

Macintyre: At Mungindi, stationery, 5ft. Barwon: At Mogil Mogil, falling, 11ft.; at Walgett, falling, 32ft. Namoi: At Walgett, falling, 13ft. Culgoa: At Goodooga, rising, 7ft. 9in. Darling: At Brewarrina, rising, 16ft. 0in.; at Bourke, rising, 23ft. 4in.; at Louth, rising, 21ft. 6in; at Tilpa, rising, 23ft. 8in.; at Wilcannia, rising, 20ft. 11in.; at Menindie, 17ft. 6in.; at Pooncarie, rising, 10ft. Murrumbidgee: At Gundagai, stationary, 3ft.; at Wagga, 2ft.; at Hay, 1ft.; at Balranald, 1ft. 9in. Murray: At Albury, 1ft. 6in.; at Euston, 4ft. 3in.

ASTRONOMICAL MEMORANDA FOR MARCH 14.

Sun rises at 6.1, sets at 6.17; Moon, 7.17 a.m., 7.15 p.m.; Mercury, 4.32 a.m., 5.18 p.m.; Venus, 3.33 a.m., 4.57 p.m.; Mars, 7.56 p.m., 8.50 a.m.; Jupiter, 9.47 p.m., 11.47 a.m.; Saturn, 3.36 p.m., 1.42 a.m. New moon, 13th; full moon, 28th.

High water at Fort Denison: 9.21 a.m., 9.37 p.m.

H. C. RUSSELL,
Government Astronomer.

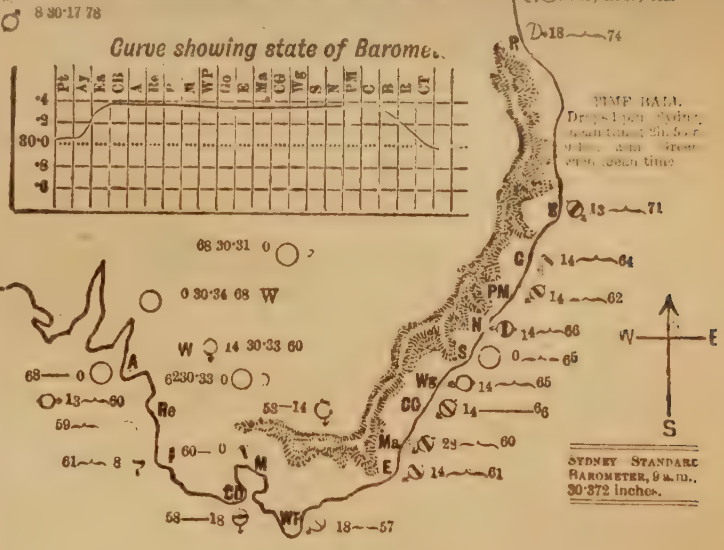
SYDNEY OBSERVATORY.

LATITUDE 33° 51' 41" S. LONGITUDE 10h. 4m. 50·81s. E.
MAGNETIC VARIATION, 9° 35' 37" E.

Average Annual Rainfall for 29 years.................49·357
Average for 30 years from Jan. 1 to Jan. 31 ..... 8·961
Total Rainfall from Jan 1, to March 20 1888 ...... 4·208

Barometers corrected to 32° Fah and Mean Sea Level

Stations.	wt	Mx	Mn	Rn
Albury ..	b	77	46	0
Armidale	b	65	48	0
Balranald	b	92	58	0
Bathurst	b	74	38	0
Bendem'r	b	79	42	0
Bodalla ..	b	69	36	0
Bourke ..	b	85	62	0
Bundarra	b	79	—	0
C'md'n H.	b	73	56	0
C. St. Geo.	b	74	56	0
Carcoar ..	b	61	32	0
Casino ..	b	89	59	0
Cassilis ..	b	69	50	0
Clarence .	c	79	66	0
C'nd'b'lin	b	81	39	0
Cooma ..	b	76	38	0
Coonab'n.	b	78	39	0
Cowra ..	b	65	46	0
Cudg'llico	b	74	—	0
Deniliq'n.	b	82	43	0
Dubbo ..	h	81	41	0
Eden	b	66	58	
Euston ..	b	91	41	0
Forbes ..	b	—	47	0
G'bo Isl'nd	-	—	—	-
Glen Inn's	b	55	44	0
Goulburn	b	77	37	0
Grafton ..	c	82	60	0
Gulgong .	b	73	35	0
Gunned'h	b	81	60	0
Hay	b	81	44	0
Inverell ..	b	73	49	0
Kiandra ..	n	75	27	0
Lismore ..	b	79	60	0
Maitland .	b	78	51	0
M'n'ng H.	b	69	54	0
Marsdens.	b	79	55	0
Menindie.	b	—	—	0
Molong ..	b	87	35	0
M'r'ng'r'll	b	72	44	0
Moree ..	b	89	54	0
Moruya ..	g	70	55	0
Moss Vale	b	66	48	0
Mt. Hope	b	72	57	0
M. Vict'ria	b	62	45	0
Mudgee ..	b	81	39	0
M'rr'mb'h	b	77	45	0
M'rr'r'ndi	b	70	49	0
Mus'lbr'k	b	75	46	0
Narrabri	b	80	53	0
Newcastle	f	74	55	0
Orange ..	b	84	40	0
Picton ..	b	73	42	0
P. M'q'rie	u	72	55	0
P. St'ph'n	b	67	46	0
Q'nbeyan	b	69	50	0
Quirindi	b	81	55	0
Singleton	b	76	53	0
SYDNEY ..	b	71	55	0
Taralga ..	b	80	38	0
Taree	b	79	54	0
T'nt'rfield	b	75	48	0
Wagga ..	b	82	38	0
Walcha ..	b	67	41	0
Walgett	b	78	46	0
Warialda	b	75	46	0
Warrah ..	b	75	48	0
W'ntw'rth	b	82	50	0
W'll'ng'ng	b	77	54	0
Young ..	b	87	40	0



SYDNEY STANDARD BAROMETER, 9 a.m., 30·372 inches.

NOTES EXPLANATORY OF MAP.

In the list of stations the column headed W.T. gives the state of the weather at 9 a.m., b, standing for blue sky; c, detached clouds; d, drizzling rain; f, fog; g, gloomy; h, hazy; m, misty; n, frosty; o, overcast; p, passing showers; r, rain; s, snow; t, thunder; u, threatening. The next column, M'x gives the maximum temperature for previous 24 hours; M'n the corresponding minimum temperature; R'n, the rain for the previous 24 hours. The symbols used in the map are explained on the margin. At each coast station the wind symbol is placed like a vane pointing to the direction from which the wind is coming. A clear circle with it means fine weather; a circle with bar, cloudy weather; and a black spot, raining. Next to this symbol are placed figures denoting the number of miles the wind is moving per hour; next, a symbol showing the state of the sea; and, lastly, figures denoting the shade temperature at 9 a.m. The barometer curve shows the state of barometers round the coast from Perth to Cooktown:—Pt, Perth; Ay, Albany; Ea, Eucla; CB, Cape Borda; A, Adelaide; Re, Robe; P, Portland; M, Melbourne; W P, Wilson's Promontory; Go, Gabo; E, Eden; Ma, Moruya; C G, Jervis Bay; Wg, Wollongong, S, Sydney; N, Newcastle; P M, Port Macquarie; C, Clarence River; B, Brisbane; R Rockhampton; Ct, Cooktown. Inland the state of barometer is given in figures at Albury, Deniliquin, Wentworth, Menindie, Bourke, and Alice Springs. The barometer curve enables one at a glance to trace the depressions, beginning with Western Australia, and passing along eastwards; northerly winds preceding them, and southerly following.

The rainfall on Sundays or holidays, when this map is not published, is in all cases included in the quantities shown by the next following map.

9 A.M. OBSERVATIONS.

Western Australia.—Generally fine, but along the south coast more or less cloudy and sultry, light north to north-east winds and calms; sea smooth to moderate. Extremes of barometers and temperature: Esperance Bay, 30·13; Carnarvon, 29·92 and 92·; and Albany, 67·.

South Australia.—Fine and pleasant weather prevails generally, with a few scattered clouds on the coast; light to fresh N.E. to S.E. winds and calms; smooth sea generally. No rain has fallen during the past 24 hours. Extremes of barometers and temperature: Robe, 30·37 and 58·; Port Darwin, 29·93 and 84·.

Victoria.—Fine and generally clear inland, cloudy along the coast; light S.W. to S.E. winds and calms; smooth sea generally. No rain has fallen during the past 24 hours. Extremes of barometers and temperature: Cape Otway, 30·40; Horsham, 30·34 and 64·; and Omeo, 54·.

Tasmania.—Generally fine, foggy in north-eastern parts; light W. to S.W. winds and calms. Extremes of barometers and temperature: Circular Head, 30·29; Falmouth, 30·22 and 59·; and Low Head, 53·.

New Zealand.—Fine throughout, squally in south parts, calms in north and central parts, south-westerly winds in south. Barometers: In north, 30·2; over centre, 29·8; and in south, 29·7.

Queensland.—Fine, but more or less cloudy, except along the southern part of the coast, where it is showery; light to fresh N.E. to S.E. and easterly winds; sea smooth to moderate, but rather rough off Cooktown and Townsville; light to heavy rain recorded over the Peninsular and around Moreton Bay. Extremes of barometers and temperature: Thargomindah, 30·30; Thursday Island, 29·97; Normanton, 84·; and Brisbane, 71·.

New South Wales.—Generally fine, but in north-east and extreme south-east parts more or less cloudy, foggy at Newcastle; winds are generally light and from S.W. to S.E. and easterly, with calms along the mountains and in western plains; sea smooth to moderate; no rain has fallen since 9 a.m. yesterday. Extremes of barometers and temperature: Walgett, 30·37; Moruya Heads, 30·27; Bourke, 68·; and Cooma, 47·. (For further particulars see map.)

3 P.M. OBSERVATIONS.

New South Wales.—Wilcannia, S.E., 14, fine, temperature 76·; Wentworth, W., 14, fine, temperature 70·; Deniliquin, calm, fine, temperature 76·; Cape St. George, N.E., 42, fine, but cloudy, smooth sea, temperature 69·; Sydney, E.N.E., 14, fine and cool, smooth sea, temperature 70·; Newcastle, N.E., 14, fine, smooth sea, temperature 71·; Port Macquarie, S.E., 14, fine, smooth sea, temperature 77·; Clarence River, S.E., 14, cloudy, smooth sea, temperature 77·; Walgett, S.E., 14, cloudy, temperature 82·; Bourke, N.E., 14, fine and warm, temperature 88·; Dubbo, S.W., 14, fine and clear, temperature 70·; Forbes, calm, fine and clear, temperature 83·; Goulburn, N.W., 14, fine, temperature 64.; Bathurst, calm, fine and clear, temperature 79·.

Queensland.—Brisbane, S.E., 23, strong wind in squalls, temperature 76·.

HEIGHT OF RIVERS ABOVE SUMMER LEVEL.

Macintyre: At Mungindi, falling, 5ft. Barwon: At Mogil Mogil, falling, 5ft.; at Walgett, falling, 26ft. Namoi: At Walgett, falling, 10ft. Culgoa: At Goodooga, falling, 7ft. 4in. Darling: At Brewarrina, falling, 16ft.; at Bourke, rising, 25ft. 6in.; at Louth, rising, 22ft. 8in.; at Tilpa, rising, 26ft. 4in.; at Wilcannia, rising, 24ft. 1in.; at Menindie, 18ft. 9in.; at Pooncarie, rising, 13ft.; at Wentworth, 7ft. 8in. Murrumbidgee: At Gundagai, stationery, 3ft.; at Wagga, 1ft. 8in.; at Hay, 3in.; at Balranald, 1ft. 1in. Murray: At Albury, 1ft. 7in.; at Euston, 3ft. 5in.

ASTRONOMICAL MEMORANDA FOR MARCH 21.

Sun rises at 6.6, sets at 6.8; Moon, 1.32 p.m., 11.32 p.m.; Mercury, 4.6 a.m., 5.0 p.m.; Venus, 3.46 a.m., 4.56 p.m.; Mars, 7.25 p.m., 8.17 a.m.; Jupiter, 9.19 p.m., 11.21 a.m.; Saturn, 3.9 p.m., 1.13 a.m. New moon, 13th; full moon, 28th.

High water at Fort Denison: 1.15 a.m., 1.45 p.m.

H. C. RUSSELL,
Government Astronomer.

Stations.	W.T.	Mx	Mn	Rn.
Albury ..	b	83	47	0
Armidale	b	63	50	0
Balranald	b	100	58	0
Bathurst	b	58	42	0
Bendem'r	b	76	44	0
Bodalla ..	b	68	51	0
Bourke ..	b	94	59	0
Bundarra	b	76	—	0
C'md'n H.	b	75	59	0
C. St. Geo.	b	73	60	0
Carcoar ..	b	68	32	0
Casino ..	c	86	57	0
Cassilis ..	b	72	50	0
Clarence .	c	80	68	0
C'nd'b'lin	b	88	39	0
Cooma ..	b	81	43	0
Coonab'n.	b	85	42	0
Cowra ..	b	89	57	0
Cudg'llico	b	8[illegible]	—	0
Deniliq'n.	b	90	45	0
Dubbo ..	b	81	41	0
Eden	b	68	58	0
Euston ..	b	99	44	0
Forbes ..	b	—	43	0
G'bo Isl'nd	b	68	59	0
Glen Inn's	b	57	46	0
Goulburn	b	83	46	0
Grafton ..	o	85	58	0
Gulgong .	b	76	42	0
Gunned'h	b	84	57	0
Hay	b	88	54	0
Inverell ..	b	76	49	0
Kiandra ..	n	75	25	0
Lismore .	b	85	62	0
Maitland .	b	76	55	0
M'n'ng H.	b	82	56	0
Marsden..	b	83	56	0
Menindie.	b	—	—	0
Molong ..	b	89	42	0
M'r'ng'r'll	b	80	58	0
Moree ..	b	92	57	0
Moruya ..	b	74	68	0
Moss Vale	b	68	57	0
Mt. Hope	b	93	65	0
M. Vict'ria	b	70	50	0
Mudgee ..	b	87	43	0
M'rr'mb'h	b	83	47	0
M'rr'r'ndi	b	72	51	0
Mus'lbr'k	b	73	49	0
Narrabri	b	84	52	0
Newcastle	h	75	62	0
Orange ..	b	69	65	0
Picton ..	b	75	42	0
P. M'q'rie	b	75	54	[illegible]
P. St'ph'n	b	70	51	0
Q'nbeyan	b	75	52	0
Quirindi	b	85	57	0
Singleton	b	79	52	0
SYDNEY ..	b	71	59	0
Taralga ..	b	88	47	0
Taree	b	86	57	0
T'nt'rfield	u	80	46	0
Wagga ..	b	84	40	0
Walcha ..	b	73	41	0
Walgett	b	87	56	0
Warialda	b	82	46	0
Warrah ..	b	78	50	0
W'ntw'rth	b	90	54	0
W'll'ng'ng	b	79	54	0
Young ..	b	94	48	0

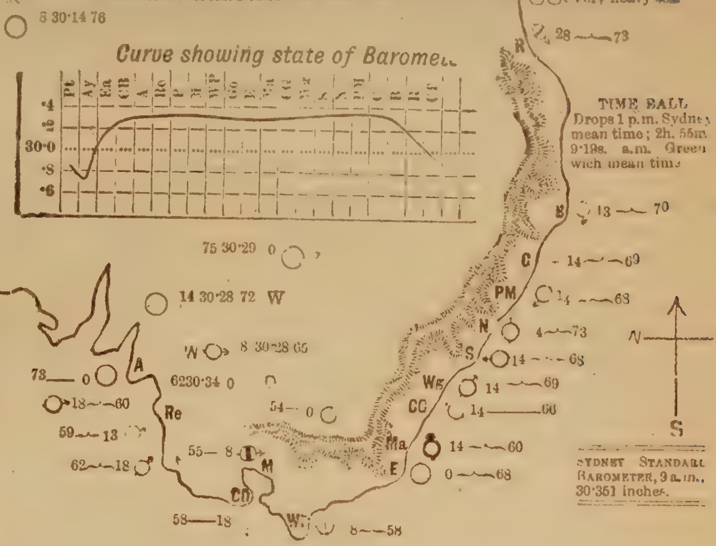
SYDNEY OBSERVATORY.

LATITUDE 33° 51′ 41″ S. LONGITUDE 10h. 4m. 50·81s. E.
MAGNETIC VARIATION, 9° 35′ 37″ E.

Average Annual Rainfall for 29 years .... 49·857
Average for 30 years from Jan. 1 to Feb. 31 ...... 8·061
Total Rainfall from Jan 1, to March 21 1888 ...... 4·208

Barometers corrected to 32° Fah and Mean Sea Level

Fine, wind N. Cloudy wind E. T. storm, wind S. Rain, wind W. If it is CALM, the symbol used without the arrow. Smooth sea. Heavy sea. Very heavy sea.



NOTES EXPLANATORY OF MAP.

In the list of stations the column headed W.T. gives the state of the weather at 9 a.m., b, standing for blue sky; c, detached clouds, d, drizzling rain; f, fog; g, gloomy; h, hazy; m, misty; n, frosty; o, overcast; p, passing showers; r, rain; s, snow; t, thunder; u, threatening. The next column, M'x gives the maximum temperature for previous 24 hours; M'n the corresponding minimum temperature; r'n, the rain for the previous 24 hours. The symbols used in the map are explained on the margin. At each coast station the wind symbol is placed like a vane pointing to the direction from which the wind is coming. A clear circle with it means fine weather: a circle with bar, cloudy weather; and a black spot, raining. Next to this symbol are placed figures denoting the number of miles the wind is moving per hour; next, a symbol showing the state of the sea; and, lastly, figures denoting the shade temperature at 9 a.m. The barometer curve shows the state of barometers round the coast from Perth to Cooktown:—Pt, Perth; Ay, Albany; Ea, Eucla; CB, Cape Borda; A, Adelaide; Re, Robe; P, Portland; M, Melbourne; W P, Wilson's Promontory; Go, Gabo, E, Eden; Ma, Moruya; C G, Jervis Bay; Wg, Wollongong, S, Sydney; N, Newcastle; P M, Port Macquarie; C, Clarence River; B, Brisbane R R, Rockhampton Ct, Cooktown. Inland the state of barometer is given in figures at Albury, Deniliquin, Wentworth, Menindie, Bourke, and Alice Springs. The barometer curve enables one at a glance to trace the depressions, beginning with Western Australia, and passing along eastwards; northerly winds preceding them, and southerly following.

The rainfall on Sundays or holidays, when this map is not published, is in all cases included in the quantities shown by the next following map.

9 A.M. OBSERVATIONS.

Western Australia.—Fine, but more or less cloudy and sultry; light variable winds and calms; smooth sea generally. Extremes of barometers and temperature: Cossack, 30·04 and 94°; Albany, 29·77; and Perth, 75°.

South Australia.—Generally fine and warm; very light south-east to north-east winds and calms; smooth sea generally. No rain has fallen since 9 a.m. yesterday. Extremes of barometers and temperature: Cape Northumberland, 30·35 and 54°; Port Darwin, 29·88 and 85°.

Victoria.—Fine and generally clear inland, more or less cloudy along the coast; light variable winds and calms; smooth to moderate sea. Extremes of barometers and temperature: Melbourne, 30·37; Omeo, 30·30; Hersham, 67°; and Ballarat, 53°.

Tasmania.—Generally fine, but more or less cloudy; light variable winds and calms; smooth sea generally. Extremes of barometers and temperature: Circular Head, 30·28 and 59°; Falmouth, 30·23; and Hobart, 51°.

New Zealand.—Fine throughout, south-west to south-easterly winds. Barometers: In north, 30·2; over centre and in south, 29·9.

Queensland.—Showery on the coast north from Cairns, except at Cooktown; fine, but cloudy or gloomy elsewhere; and in far west, fine and clear. Light to fresh N.E. to S.E. and easterly winds; smooth to moderate sea. Heavy rain recorded over the Peninsula, and light along the coast. Extremes of barometers and temperature: Brisbane, 30·28 and 70°; Cooktown, 29·96; and Blackall, 86°.

New South Wales.—Fine, clear, and cool weather generally, except in extreme north-east, where it is cloudy and unsettled; frosty at Kiandra. Light variable winds, chiefly calms; sea smooth to moderate; no rain has fallen during the past 24 hours. Extremes of barometers and temperature: Forbes, 30·38; Moruya Heads, 30·24; Bourke, 75°; and Bathurst, 53°. (For further particulars see map.)

3 P.M. OBSERVATIONS.

South Australia.—Adelaide, S.W., 8, fine, temperature 83°.

New South Wales.—Wilcannia, S., 14, fine and clear, temperature 81°; Wentworth, N.E., 14, fine, clear, and warm, temperature 73°; Deniliquin, calm, fine, temperature 79°; Eden, E., 14, fine, smooth sea, temperature 70°; Cape St. George, N.E., 42, fine, smooth sea, temperature 70°; Sydney, E.N.E., 18, fine and hazy, smooth sea, temperature 73°; Newcastle, N.E., 28, fine, smooth sea, temperature 74°; Port Macquarie, E., 14, fine, smooth sea, temperature 80°; Clarence River, S.E., 14, fine, smooth sea, temperature 78°; Walgett, S.E., 14, cloudy, temperature 81°; Bourke, S.E., 14, fine and warm, temperature 92°; Dubbo, W.N.W., 14, fine temperature 78°; Forbes, calm, fine and clear, temperature 90°; Goulburn, W., 14, fine, temperature 71°; Bathurst, calm, fine, temperature 80°.

Queensland.—Townsville, S.E., 23, fine, moderate sea, temperature 83°; Mackay, S.E., 28, fine, temperature 79°; Rockhampton, E., 18, cloudy, temperature 79°; Cape Moreton, E., cloudy, moderate sea, temperature 78°; Brisbane, E.S.E., 18, cloudy, temperature 78°; Hughenden, E., 28, fine and warm, temperature 87°; Boulia, S.E., fine and warm; Blackall, S.E., 18, cloudy, temperature 97°; Thargomindah, S.E., 14, cloudy, temperature 89°; Roma, S.S.E., 13, cloudy, temperature 80°; Cloncurry, S.E., 18, fine, temperature 92°.

HEIGHT OF RIVERS ABOVE SUMMER LEVEL.

Macintyre: At Mungindi, stationary, 5ft. Barwon: At Mogil Mogil, falling, 3ft.; at Walgett, falling, 25ft. Namoi: At Walgett, falling, 8ft. 10in. Culgoa: At Goodooga, falling, 7ft. Darling: At Brewarrina, falling, 15ft. 9in.; at Bourke, rising, 25ft. 8in.; at Louth, rising, 23ft.; at Tilpa, rising, 26ft. 8in.; at Wilcannia, rising, 24ft. 6in.; at Menindie, rising, 19ft.; at Pooncarie, 13ft. 5in.; at Wentworth, 7ft. 9in. Murrumbidgee: At Gundagai, stationary, 3ft.; at Wagga, 1ft. 6in.; at Hay, 3in.; at Balranald, 1ft. 1in. Murray: At Albury, 1ft. 11in.; at Euston, 3ft. 5in.

ASTRONOMICAL MEMORANDA FOR MARCH 22.

Sun rises at 6.7, sets at 6.6; Moon rises at 2.23 p.m.; Mercury, 4.5 a.m., 4.59 p.m.; Venus, 3.48 a.m., 4.56 p.m.; Mars, 7.21 p.m., 8.12 a.m.; Jupiter, 9.15 p.m., 11.17 a.m.; Saturn, 3.5 p.m., 1.9 a.m. New moon, 13th; full moon, 28th.

High water at Fort Denison: 2.15 a.m., 2.52 p.m.

H. C. RUSSELL,
Government Astronomer.

Stations.	wt	Mx	m	Rn.
Albury	b	85	48	0
Armidale	b	69	44	0
Balranald	b	96	57	0
Bathurst	b	82	42	0
Bendem'r	b	78	43	0
Bodalla	c	78	60	0
Bourke	b	99	57	0
Bundarra	b	71	—	0
C'md'n H.	b	77	57	0
C. St. Geo.	u	74	64	0
Carcoar	b	68	36	0
Casino	u	81	52	0
Cassilis	b	74	52	0
Clarence	b	80	66	0.05
C nd'b'lin	b	92	41	0
Cooma	b	34	45	0
Coonab'n.	b	85	44	0
Cowra	b	91	50	0
Cudg'llico	b	87	—	0
Deniliq'n.	b	92	45	0
Dubbo	n	90	47	0
Eden	b	70	50	0
Euston	b	102	49	0
Forbes	b	—	46	0
G'bo Isl'nd	b	76	58	0
Glen Inn's	b	55	42	0
Goulburn	d	82	49	0
Grafton	b	83	59	0
Gulgong	b	77	42	0
Gunned'h	b	86	57	0
Hay	b	92	52	0
Inverell	b	76	45	0
Kiandra	n	75	25	0
Lismore	r	86	60	0
Maitland	b	80	55	0
M'n'ng H.	b	76	55	0
Marsdens	b	87	59	0
Menindie	b	—	—	0
Molong	b	90	44	0
M'r'ng'r'll	b	83	57	0
Moree	b	92	58	0
Moruya	g	77	67	0
Moss Vale	d	73	56	0
Mt. Hope	b	93	69	0
M. Vict'ria	b	73	53	0
Mudgee	b	89	45	0
M'rr'mb'h	b	86	47	0
M'rr'r'ndi	b	73	54	0
Mus'lbr'k	b	80	50	0
Narrabri	b	83	53	0
Newcastle	b	77	59	0
Orange	b	71	44	0
Picton	b	79	48	0
P. M'q'rie	b	76	54	0
P. St'ph'n	b	72	51	0
Q'nbeyan	b	77	52	0
Quirindi	b	88	57	0
Singleton	b	81	53	0
SYDNEY	b	77	60	0
Taralga	b	84	45	0
Taree	b	81	56	0
T'nt'rfield	b	80	49	0
Wagga	b	91	39	0
Walcha	b	72	42	0
Walgett	b	64	58	0
Warialda	b	82	50	0
Warrah	b	80	52	0
W'ntw'rth	b	98	56	0
W'll'ng'ng	b	81	56	0
Young	b	94	46	0

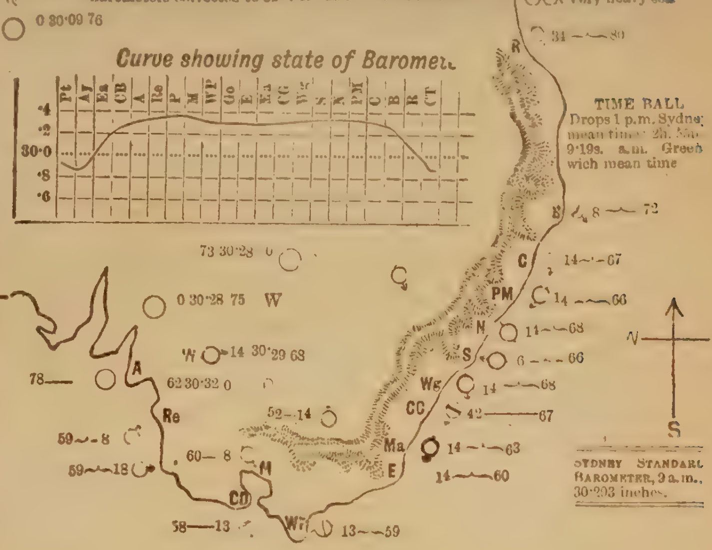
SYDNEY OBSERVATORY.

LATITUDE 33° 51′ 41″ S. LONGITUDE 10h. 4m. 50·81s. E.
MAGNETIC VARIATION, 9° 35′ 37″ E.

Average Annual Rainfall for 29 years.................49·857
Average for 30 years from Jan. 1 to Feb. 31 .. .. 8·961
Total Rainfall from Jan 1, to March 22 1888 ...... 4·208

Barometers corrected to 32° Fah and Mean Sea Level

Fine, wind N. Cloudy wind E. T. storm, wind S. Rain, wind W. If it is CALM, the symbol used without the arrow. ~ Smooth sea. Heavy sea. Very heavy sea.



NOTES EXPLANATORY OF MAP.

In the list of stations the column headed W.T. gives the state of the weather at 9 a.m., b, standing for blue sky; c, detached clouds; d, drizzling rain; f, fog; g, gloomy; h, hazy; m, misty; n, frosty; o, overcast; p, passing showers; r, rain; s, snow; t, thunder; u, threatening. The next column, M'x gives the maximum temperature for previous 24 hours; M'n the corresponding minimum temperature; r'n, the rain for the previous 24 hours. The symbols used in the map are explained on the margin. At each coast station the wind symbol is placed like a vane pointing to the direction from which the wind is coming. A clear circle with it means fine weather; a circle with bar, cloudy weather; and a black spot, raining. Next to this symbol are placed figures denoting the number of miles the wind is moving per hour; next, a symbol showing the state of the sea; and, lastly, figures denoting the shade temperature at 9 a.m. The barometer curve shows the state of barometers round the coast from Perth to Cooktown:—Pt, Perth; Ay, Albany; Ea, Eucla; CB, Cape Borda; A, Adelaide; Re, Robe; P, Portland; M, Melbourne; W P, Wilson's Promontory; Go, Gabo; E, Eden; Ma, Moruya; C G, Jervis Bay; Wg, Wollongong, S, Sydney; N, Newcastle; P M, Port Macquarie; C, Clarence River; B, Brisbane; R Rockhampton; Ct, Cooktown. Inland the state of barometer is given in figures at Albury, Deniliquin, Wentworth, Menindie, Bourke, and Alice Springs. The barometer curve enables one at a glance to trace the depressions, beginning with Western Australia, and passing along eastwards; northerly winds preceding them, and southerly following.

The rainfall on Sundays or holidays, when this map is not published, is in all cases included in the quantities shown by the next following map.

SYNOPSIS.

W. Australia.—Fine, with scattered clouds along the western coast; light variable winds and calms.

S. Australia.—Fine and warm, light south-east to north-east winds, and calms.

Victoria and Straits.—Fine, with light and variable winds and calms.

Tasmania.—Fine, but more or less cloudy; light to fresh south to westerly winds and calms.

New South Wales.—Fine, but in extreme north-east and south-east cloudy and unsettled; light variable winds and calms.

Queensland.—Fine, with light scattered clouds inland; showery around Johnstone River; light to fresh south-east winds.

Central and N. Australia.—Fine and warm, light south-easterly winds and calms.

New Zealand.—Fine, but in south parts showery; north-westerly winds and calms.

Forecast.—Fine warm weather, with more or less clouds; on the coast moderate winds from E. to N., inland northerly winds and calms with warm weather.

3 P.M. OBSERVATIONS.

Victoria.—Portland, E.S.E., 18, fine, smooth sea, temperature 65°; Cape Otway, S.E., 18, fine, smooth sea, temperature, 64°; Melbourne, S., 13, fine, temperature 65°; Cape Schanck, calm, cloudy, smooth sea, temperature 61°; Wilson's Promontory, W.S.W., 13, fine, smooth sea, temperature 62°; Lakes Entrance, S.E., 18, cloudy, temperature 67°; Omeo, S.E., 13, fine, temperature 73°.

New South Wales.—Wilcannia, calm, fine, hot, like a change, temperature 82°; Wentworth, E., 14, fine, clear, and warm, temperature 73°; Deniliquin, calm, fine, temperature 79°; Eden, E.S.E., 14, fine, but cloudy, smooth sea, temperature 67°; Moruya, S.E., 28, fine, smooth sea, temperature 69°; Cape St. George, S., 42, cloudy, like rain, smooth sea, temperature 71°; Sydney, S.E., 14, fine, scattered clouds, smooth sea, temperature 73°; Newcastle, N.E., 14, fine, smooth sea, temperature 76°; Port Macquarie, E.S.E., 14, fine, smooth sea, temperature 81°; Clarence River, S.E., 14, fine, smooth sea, temperature 76°; Walgett, calm, fine, temperature 83°; Bourke, calm, fine and hot, temperature 91°; Dubbo, S.E., 14, fine, temperature 75°; Forbes, calm, fine, temperature 90°; Hay, calm, fine: Bathurst, calm, fine, but cloudy, temperature 80°.

Queensland.—Townsville, E., 23, fine, moderate sea, temperature 83°; Mackay, S.E., 18, hot, like rain, temperature 79°; Rockhampton, E., 13, fine, temperature 81°; Cape Moreton, E., 23, fine, smooth sea, temperature 77°; Brisbane, S.E., 18, fine, cloudy, temperature 76°; Hughenden, E., 28, fine and warm, temperature 87°; Boulia, S.E., 23, fine; Thargomindah, E., 8, fine, temperature 99°; Roma, E., 34, cloudy, temperature 79°; Cloncurry, S., 18, fine, temperature 91°.

HEIGHT OF RIVERS ABOVE SUMMER LEVEL.

Macintyre: At Mungindi, falling, 4ft. 6in. Barwon: At Mogil Mogil, falling, 2ft.; at Walgett, falling, 24ft. Namoi: At Walgett, falling, 7ft. 10in. Culgoa: At Goodooga, falling, 6ft. 10in. Darling: At Brewarrina, falling, 15ft. 3in.; at Bourke, rising, 25ft. 10in.; at Louth, rising, 23ft. 3in.; at Tilpa, rising, 27ft.; at Wilcannia, rising, 24ft. 10in.; at Pooncarie, 14ft.; at Wentworth, 2ft. 11in. Murrumbidgee: At Gundagai, stationary, 3ft.; at Wagga, 1ft. 10in.; at Hay, summer level; at Balranald, 1ft. Murray: At Albury, 1ft. 6in.; at Euston, 3ft. 5in.

ASTRONOMICAL MEMORANDA FOR MARCH 23.

Sun rises at 6.8, sets at 6.5; Moon, 3.11 p.m., 12.25 a.m.; Mercury, 4.4 a.m., 4.58 p.m.; Venus, 3.50 a.m., 4.55 p.m.; Mars, 7.16 p.m., 8.7 a.m.; Jupiter, 9.11 p.m., 11.13 a.m.; Saturn, 3.1 p.m., 1.5 a.m. New moon, 13th; full moon, 28th.

High water at Fort Denison: 3.29 a.m., 4.9 p.m.

H. C. RUSSELL,
Government Astronomer.

Stations.	W.T.	MX	Mn	Rn.
Albury ..	b	86	50	0
Armidale	f	69	44	0
Balranald	b	93	53	0
Bathurst	b	83	45	0
Bendem'r	b	74	42	0
Bodalla ..	b	70	51	0
Bourke ..	b	95	59	0
Bundarra	b	77	—	0
C'md'n H.	b	78	55	0
C. St. Geo.	u	72	61	0
Carcoar ..	b	70	51	0
Casino ..	u	82	52	0·28
Cassilis ..	b	77	54	0
Clarence .	b	81	65	0.03
C nd'b'lin	b	93	41	0
Cooma ..	f	83	45	0
Coonab'n.	h	86	45	0
Cowra ..	b	90	52	0
Cudg'llico	b	92	—	0
Deniliq'n.	b	94	45	0
Dubbo ..	h	92	46	0
Eden	-	—	—	-
Euston ..	b	101	47	0
Forbes ..	b	—	52	0
G'bo Isl'nd	b	67	57	0
Glen Inn's	b	56	43	0
23—87 EUCLA				
Goulburn	g	82	49	0
Grafton ..	b	85	59	0
Gulgong .	b	81	39	0
Gunned'h	b	86	57	0
Hay	b	92	52	0
Inverell ..	b	77	48	0
Kiandra ..	n	76	27	0
Lismore. .	b	86	60	0
Maitland .	b	81	58	0
M'n'ng H.	b	75	57	0
Marsdens.	b	87	60	0
Menindie.	-	—	—	-
Molong ..	b	93	45	0
M'r'ng'r'll	b	85	54	0
Moree ..	b	92	54	0
Moruya ..	b	73	57	0
Moss Vale	u	68	58	0
Mt. Hope	b	94	63	0
M. Vict'ria	g	74	47	0
Mudgee ..	b	89	53	0
M'rr'mb'h	b	87	50	0
M'rr'r'ndi	c	75	54	0
Mus'lbr'k	b	82	49	0
Narrabri	h	84	52	0
Newcastle	f	77	64	0
Orange ..	b	73	47	0
Picton ..	b	80	54	0
P. M'q'rie	b	79	57	0
P. St'ph'n	b	71	51	0
Q'nbeyan	b	77	55	0
Quirindi	g	86	60	0
Singleton	b	83	60	0
SYDNEY ..	c	75	63	0
Taralga ..	b	83	56	0
Taree	b	84	55	0
T'nt'rfield	b	74	49	0
Wagga ..	b	92	41	0
Walcha ..	f	73	40	0
Walgett	b	85	58	0
Warialda	b	84	48	0
Warrah ..	b	80	53	0
W'ntw'rth	b	93	58	0
W'll'ng'ng	o	80	61	0
Young ..	b	97	50	0

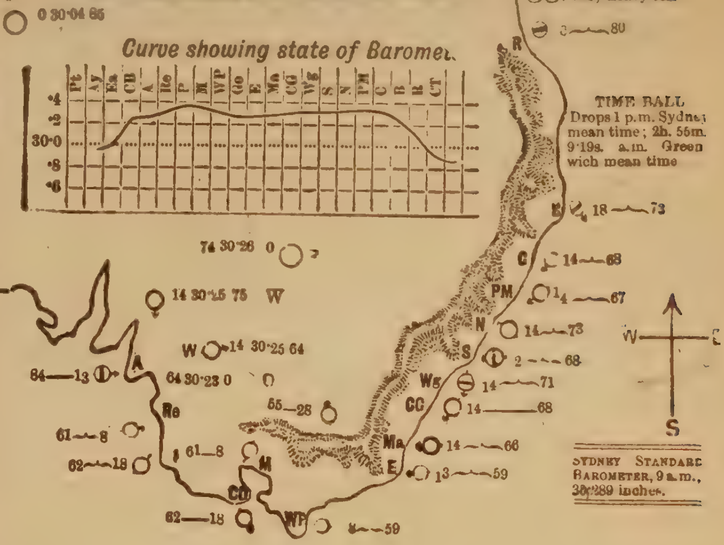
SYDNEY OBSERVATORY.

LATITUDE 33° 51' 41" S. LONGITUDE 10h. 4m. 50·81s. E.
MAGNETIC VARIATION, 9° 35' 37" E.

Average Annual Rainfall for 29 years.. ....49·857
Average for 30 years from Jan. 1 to Feb. 31 .. .. 8·961
Total Rainfall from Jan 1, to March 23 1888 ...... 4·268

Barometers corrected to 32° Fah and Mean Sea Level

Fine, wind N. Cloudy wind E. T. storm, wind S. Rain, wind W. If it is CALM, the symbol used without the arrow. Smooth sea. Heavy sea. Very heavy sea.



TIME BALL
Drops 1 p.m. Sydney mean time; 2h. 56m. 9·19s. a.m. Greenwich mean time

SYDNEY STANDARD BAROMETER, 9 a.m., 30·289 inches.

NOTES EXPLANATORY OF MAP.

In the list of stations the column headed W.T. gives the state of the weather at 9 a.m., b, standing for blue sky; c, detached clouds; d, drizzling rain; f, fog; g, gloomy; h, hazy; m, misty; n, frosty; o, overcast; p, passing showers; r, rain; s, snow; t, thunder; u, threatening. The next column, M'x gives the maximum temperature for previous 24 hours; M'n the corresponding minimum temperature; r'n, the rain for the previous 24 hours. The symbols used in the map are explained on the margin. At each coast station the wind symbol is placed like a vane pointing to the direction from which the wind is coming. A clear circle with it means fine weather; a circle with bar, cloudy weather; and a black spot, raining. Next to this symbol are placed figures denoting the number of miles the wind is moving per hour; next, a symbol showing the state of the sea; and, lastly, figures denoting the shade temperature at 9 a.m. The barometer curve shows the state of barometers round the coast from Perth to Cooktown:—Pt, Perth; Ay, Albany; Ea, Eucla: CB, Cape Borda; A, Adelaide; Re, Robe; P, Portland; M, Melbourne; W P, Wilson's Promontory; Go, Gabo; E, Eden; Ma, Moruya; C G, Jervis Bay; Wg, Wollongong, S, Sydney, N, Newcastle; P M, Port Macquarie; C, Clarence River; B, Brisbane; R Rockhampton; Ct, Cooktown. Inland the state of barometer is given in figures at Albury, Deniliquin, Wentworth, Menindie, Bourke, and Alice Springs. The barometer curve enables one at a glance to trace the depressions, beginning with Western Australia, and passing along eastwards; northerly winds preceding them, and southerly following.

The rainfall on Sundays or holidays, when this map is not published, is in all cases included in the quantities shown by the next following map.

SYNOPSIS.

W. Australia.—Cloudy and unsettled in south; light W. winds and calms.

S. Australia.—Fine and clear in S.E., more or less cloudy over the remainder; light E. to N.E. winds.

Victoria and Straits.—Fine on parts of the coast, cloudy at places; light and variable winds.

Tasmania.—Fine and clear; light and variable winds or calms.

New South Wales.—Fine and clear inland; light clouds or fog on the coast; light variable winds.

Queensland.—Inland fine; cloudy and unsettled on the coast; showery in N.E.; light N.E. to S.E. winds.

Central and N. Australia.—Fine and clear, light N.E. to S.E. winds or calms.

New Zealand.—Showery in extreme south; fine to northward; N.W. winds or calms.

Forecast.—Inland generally fine weather, with some clouds on the coast, and probably a little rain in extreme N.E. On the coast easterly winds and calms; inland, calms and variable winds.

3 P.M. OBSERVATIONS.

New South Wales.—Deniliquin, calm, fine, temperature 80°; Wentworth, S.W., fine, 73°; Goulburn, calm, fine, 71°; Dubbo, E., fine, 76°; Newcastle, N.E., fine, smooth sea, 74°; Port Macquarie, E., fine, smooth, 81°; Forbes, N.W., fine, 92°; Cape St. George, E.S.E., fine, smooth sea, 72°; Eden, S.E., fine, smooth, 65°; Walgett, calm, fine and sultry, 83°; Clarence Heads, S.E., fine, smooth, 79°; Moruya Heads, S.E., dull, smooth, 70°; Sydney, E., fine, smooth, 72°.

ASTRONOMICAL MEMORANDA FOR MARCH 24.

Sun rises at 6.8, sets at 6.4; Moon, 3.57 p.m., 1.23 a.m.; Mercury, 4.3 a.m., 4.57 p.m.; Venus, 3.52 a.m., 4.55 p.m.; Mars, 7.12 p.m., 8.2 a.m.; Jupiter, 9.7 p.m., 11.1 a.m.; Saturn, 2.57 p.m., 1.1 a.m. New moon, 13th; full moon, 28th.

High water at Fort Denison: 4.49 a.m., 5.25 p.m.

H. C. RUSSELL,
Government Astronomer.

Stations.	W.T.	MX.	MN.	RN.
Albury ..	b	86	53	0
Armidale	f	70	46	0
Balranald	o	101	60	0
Bathurst	b	85	49	0
Bendem'r	b	74	44	0
Bodalla ..	b	74	55	0
Bourke .	b	99	61	0
Bundarra	b	79	—	0
C'md'n H.	c	78	65	0·10
C. St. Geo.	b	79	63	0
Carcoar ..	b	72	46	0
Casino ..	p	83	55	0.03
Cassilis ..	n	76	56	0
Clarence .	b	82	65	0·76
C nd'b'lin	b	91	49	0
Cooma ..	b	82	45	0
Coonab'n.	b	86	44	0
Cowra ..	b	93	59	0
Cudg'llico	b	94	—	0
Deniliq'n.	b	95	48	0
Dubbo ..	b	91	59	0
Eden	b	71	57	0
Euston ..	b	103	45	0
Forbes ..	b	—	51	0
G'bo Isl'nd	b	75	59	0
Glen Inn's	b	57	46	0
Goulburn	b	83	51	0
Grafton ..	b	84	58	0
Gulgong .	b	84	52	0
Gunned'h	b	83	62	0
Hay	b	93	52	0
Inverell ..	b	77	48	0
Kiandra ..	n	79	32	0
Lismore .	c	82	63	0·10
Maitland .	b	82	58	0
M'n'ng H.	c	75	59	0·11
Marsdens.	b	88	63	0
Menindie.	g	—	—	0
Molong ..	b	92	47	0
M'r'ng'r'll	b	86	56	0
Moree ..	b	93	57	0
Moruya ..	b	73	62	0
Moss Vale	b	72	57	0
Mt. Hope	b	95	69	0
M. Vict'ria	b	72	48	0
Mudgee ..	h	92	53	0
M'rr'mb'h	b	87	56	0
M'rr'r'ndi	b	72	51	0
Mus'lbr'k	b	81	54	0
Narrabri	h	86	54	0
Newcastle	b	80	63	0
Orange ..	b	73	55	0
Picton ..	b	76	53	0
P. M'q'rie	u	78	58	0·18
P. St'ph'n	b	70	51	0
Q'nbeyan	b	78	54	0
Quirindi	b	85	60	0
Singleton	b	82	61	0
SYDNEY ..	b	74	63	0
Taralga ..	b	84	56	0
Taree	b	58	60	0
T'nt'rfield	b	69	49	0
Wagga ..	b	93	51	0
Walcha ..	b	72	39	0
Walgett	b	87	61	0
Warialda	b	86	46	0
Warrah ..	b	80	55	0
W'ntw'rth	b	94	58	0
W'll'ng'ng	b	81	61	0
Young ..	b	100	55	0

SYDNEY OBSERVATORY.

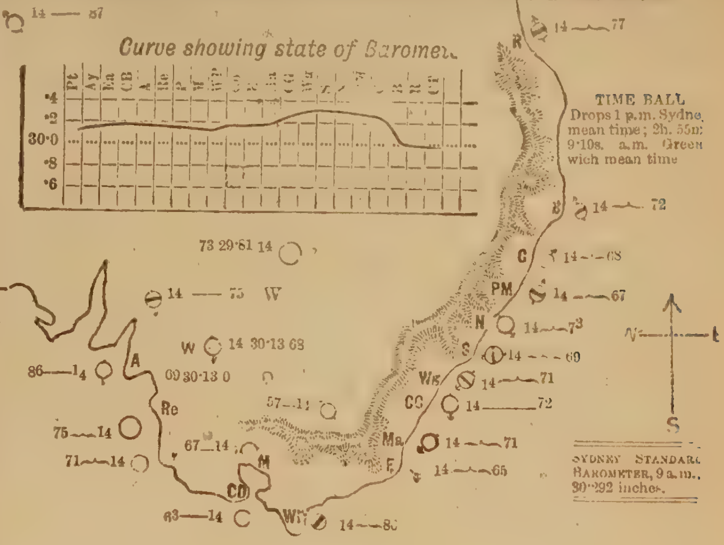
LATITUDE 33° 51' 41" S. LONGITUDE 10h. 4m. 50·8s. E.

MAGNETIC VARIATION, 9° 35' 37" E.

Average Annual Rainfall for 29 years.................49·857
Average for 30 years from Jan. 1 to Feb. 29 .. .. 8·901
Total Rainfall from Jan. 1. to March 24 1898 ..... 4·208

Barometers corrected to 32° Fah and Mean Sea Level

Fine, wind N. Cloudy, wind E. T. storm, wind S. Rain, wind W.
If it is CALM, the symbol used without the arrow
Smooth sea.
Heavy sea.
Very heavy sea.



TIME BALL
Drops 1 p.m. Sydney mean time; 2h. 55m. 9·10s. a.m. Greenwich mean time

SYDNEY STANDARD BAROMETER, 9 a.m., 30·292 inches.

NOTES EXPLANATORY OF MAP.

In the list of stations the column headed W.T. gives the state of the weather at 9 a.m., b, standing for blue sky; c, detached clouds; d, drizzling rain; f, fog; g, gloomy; h, hazy; m, misty; n, frosty; o, overcast; p, passing showers; r, rain; s, snow; t, thunder; u, threatening. The next column, M'x gives the maximum temperature for previous 24 hours; M'n the corresponding minimum temperature; r'n, the rain for the previous 24 hours. The symbols used in the map are explained on the margin. At each coast station the wind symbol is placed like a vane pointing to the direction from which the wind is coming. A clear circle with it means fine weather; a circle with bar, cloudy weather; and a black spot, raining. Next to this symbol are placed figures denoting the number of miles the wind is moving per hour; next, a symbol showing the state of the sea; and, lastly, figures denoting the shade temperature at 9 a.m. The barometer curve shows the state of barometers round the coast from Perth to Cooktown:—Pt, Perth; Ay, Albany; Ea, Eucla; CB, Cape Borda; A, Adelaide; Re, Robe; P, Portland; M, Melbourne; W P, Wilson's Promontory; Go, Gabo; E, Eden; Ma, Moruya; C G, Jervis Bay; Wg, Wollongong, S, Sydney; N, Newcastle; P M, Port Macquarie; C, Clarence River; B, Brisbane; R Rockhampton; Ct, Cooktown. Inland the state of barometer is given in figures at Albury, Deniliquin, Wentworth, Menindie, Bourke, and Alice Springs. The barometer curve enables one at a glance to trace the depressions, beginning with Western Australia, and passing along eastwards; northerly winds preceding them, and southerly following.

The rainfall on Sundays or holidays, when this map is not published, is in all cases included in the quantities shown by the next following map.

SYNOPSIS.

S. Australia.—Generally warm, with scattered clouds; fresh N. to N.E. winds.

Victoria and Straits.—Fine, but at places more or less cloudy and foggy; light E. to N. winds.

Tasmania.—On the north coast foggy; in south fine; light north winds and calms.

New South Wales.—Generally fine and clear, but in N.E. unsettled, and in west like a change; light N.E. to N. winds.

Queensland.—Along the coast cloudy; fine elsewhere; fresh E. to N.E. winds.

Central and N. Australia.—Fine and clear; light to fresh S.E. to N.E. winds.

New Zealand.—Fine and clear; calm in north and south; N.W. winds in Cook Strait.

Forecast.—Generally fine but hot and oppressive weather, with northerly winds tending to N. E. on the coast.

3 P.M. OBSERVATIONS.

New South Wales.—Dubbo, N.E., 14, fine, temperature 77; Walgett, N.W., cloudy, 82°; Deniliquin, calm, fine, 84°; Wentworth, W., fine, warm, 75°; Clarence Heads, S.E., 10, fine, smooth sea, 79°; Cape George, N.E., 42, fine, smooth. 71°; Sydney, N.E., 15, fine, smooth. 73°; Wilcannia, N.E., 28, fine, warm, 85°; Port Macquarie, E., 14, fine, smooth, 80; Goulburn, W., fine, 74°; Forbes, calm, fine, 92°; Newcastle, E., 10, fine, smooth, 74°; Moruya, N.E., 42, fine, moderate, 78°; Bathurst, calm, fine, 73°; Bourke, N.E., 14, fine, hot, 89°.

Victoria.—Melbourne, no observations; Cape Otway, E., 8, misty, temperature 70°; Cape Schanck, calm, fine, smooth sea, 65°; Wilson's Promontory, N.E., 8, cloudy, smooth sea, 65°.

Queensland.—Brisbane, S.E., 8, cloudy, temperature 72°; Rockhampton, E.N.E., 23, fine, 81°; Townsville, S.E., 24, cloudy, moderate sea, 83; Mackay, E., 23, fine, 79°; Cape Moreton, E., 23, fine but cloudy, 78°; Thargomindah, N., 8, fine, 88°; Hughenden, E., 8, fine, warm, 87°; Blackall, S.E., 13, fine, warm, 86°; Boulia, S.E., 18, fine; Cloncurry, S.E., 13, fine, warm, 83°.

ASTRONOMICAL MEMORANDA FOR MARCH 26.

Sun rises at 6.9, sets at 6.1; Moon, 5.23 p.m., 3.29 a.m.; Mercury, 4.1 a.m., 4.55 p.m.; Venus, 3.56 a.m., 4.54 p.m; Mars, 7.3 p.m., 7.52 a.m.; Jupiter, 9 p.m., 11.1 a.m.; Saturn, 2.49 p.m., 12.53 a.m. New moon, 13th; full moon, 28th.

High water at Fort Denison: 6.59 a.m., 7.24 p.m.

H. C. RUSSELL,
Government Astronomer.

Stations.	wt	Mx	m	Rn
Albury ..	b	88	53	0
Armidale	b	72	47	0
Balranald	b	100	63	0
Bathurst	b	82	44	0
Bendem'r	b	76	46	0
Bodalla ..	b	87	54	0
Bourke ..	b	100	62	0
Bungarra	-	—	—	-
C'md'n H.	b	79	61	0
C. St. Geo.	b	85	63	0
Carcoar ..	b	73	39	0.31
Casino ..	b	86	53	0
Cassilis ..	b	78	57	0
Clarence .	b	85	66	0
C nd'b'lin	b	93	42	0·04
Cooma ..	c	85	48	0·85
Coonab'n.	b	87	48	0
Cowra ..	b	91	55	0
Cudg'llico	b	95	—	0
Deniliq'n.	b	100	48	0
Dubbo ..	h	91	51	0
Eden	c	82	64	0
Euston ..	b	103	58	0
Forbes ..	b	—	56	0
G'bo Isl'nd		78	63	0
Glen Inn's	b	55	42	0·13
28—79 EUCLA				
Goulburn	b	84	50	0·02
Grafton ..	b	85	58	0
Gulgong .	b	86	43	0
Gunned'h	b	85	59	0
Hay . ..	b	97	57	0
Inverell. .	b	74	51	0
Kiandra. .	g	79	35	0
Lismore. .	b	91	60	0·01
Maitland .	b	81	60	0
M'n'ng H.	b	76	59	0
Marsdens.	b	85	61	0·02
Menindie.	u	—	—	0
Molong ..	b	91	45	0
M'r'ng'r'll	b	88	50	0·01
Moree ..	b	93	59	0
Moruya ..	c	83	70	0
Moss Vale	-	—	—	-
Mt. Hope	b	82	68	0
M. Vict'ria	b	75	48	0
Mudgee ..	b	90	47	0
M'rr'mb'h	b	71	57	0
M'rr'r'ndi	b	77	55	0
Mus'lbr'k	b	85	52	0
Narrabri	b	86	59	0·02
Newcastle	f	87	62	0
Orange ..	b	73	48	0·03
Picton ..	b	85	49	0
P. M'q'rie	b	81	57	0
P. St'ph'n	b	75	54	0
Q'nbeyan	b	81	53	0
Quirindi	b	86	60	0
Singleton	b	87	58	0
SYDNEY ..	b	87	62	0
Taralga ..	b	85	46	0
Taree	b	86	58	0
T'nt'rfield	b	80	44	0·19
Wagga ..	b	96	46	0
Walcha ..	b	73	39	0
Walgett	b	89	59	0
Warialda	b	86	51	0
Warrah ..	b	80	53	0
W'ntw'rth	b	87	56	0
W'll'ng'ng	h	86	56	0
Young ..	b	96	49	0·30

SYDNEY OBSERVATORY.

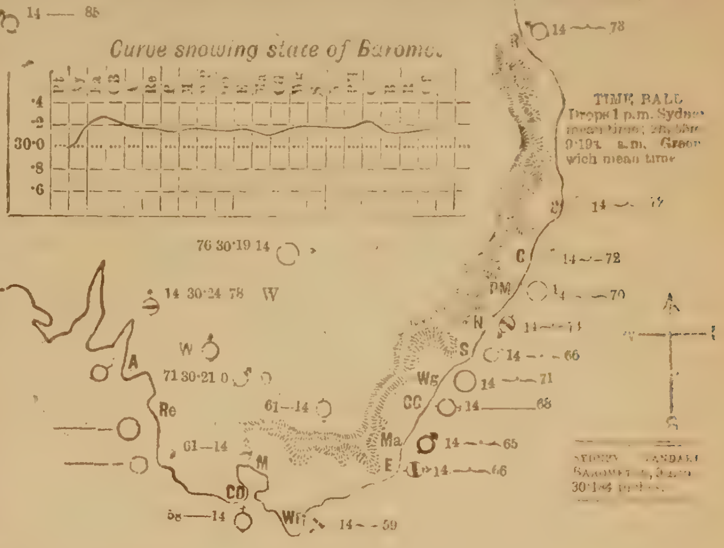
LATITUDE 33° 51' 41" S. LONGITUDE 10h. 4m. 50·81s. E.

MAGNETIC VARIATION, 9° 35' 37" E.

Average Annual Rainfall for 19 years .... 49·557
Average for 30 years from Jan. 1 to Feb. 29 .... 8·061
Total Rainfall from Jan. 1, to March 26 1888 ...... 4·212

Barometers corrected to 32° Fah. and Mean Sea Level

Fine wind S. — Gale wind W
T. storm, wind N — Rain wind E
If it is CALM, the symbol used without the arrow
Smooth sea.
Heavy sea.
Very heavy sea.



NOTES EXPLANATORY OF MAP.

In the list of stations the column headed W.T. gives the state of the weather at 9 a.m., b standing for blue sky; c, detached clouds; d, drizzling rain; f, fog; g, gloomy; h, hazy; m, misty; n, frosty; o, overcast; p, passing showers; r, rain; s, snow; t, thunder; u, threatening. The next column, M'x, gives the maximum temperature for previous 24 hours, M'n the corresponding minimum temperature; R'n, the rain for the previous 24 hours. The symbols used in the map are explained on the margin. At each station the wind symbol points to the direction in which the wind is blowing, is in fact an arrow flying with the wind. A clear circle with it means fine weather; a circle with bar, cloudy weather; and a black spot, raining. Next to this symbol are placed figures denoting the number of miles the wind is moving per hour; next, a symbol showing the state of the sea; and, lastly, figures denoting the shade temperature at 9 a.m. The barometer curve shows the state of barometers round the coast from Perth to Cooktown:—Pt, Perth; Ay, Albany; Ea, Eucla; CB, Cape Borda; A, Adelaide; Re, Robe; P, Portland; M, Melbourne; WP, Wilson's Promontory; Go, Gabo; E, Eden; Ma, Moruya; CG, Jervis Bay; Wg, Wollongong; S, Sydney; N, Newcastle; PM, Port Macquarie; C, Clarence River; B, Brisbane; R, Rockhampton; Ct, Cooktown. Inland, the state of barometer is given in figures at Albury, Deniliquin, Wentworth, Menindie, Bourke, and Alice Springs. The barometer curve enables one at a glance to trace the depressions, beginning with Western Australia, and passing along eastwards; northerly winds preceding them, and southerly following.

The rainfall on Sundays or holidays when this map is not published, is in all cases included in the quantities shown by the next following map.

SYNOPSIS.

W. Australia.—Reports only from south, whence it is fine, but at Esperance Bay threatening rain; light N.E. to E. winds, sea rising.

S. Australia.—Fine inland, scattered clouds on and near the coast; light to fresh S.E. to southerly winds.

Victoria and Straits.—Fine, but generally cloudy and unsettled, light S.E. to southerly winds.

Tasmania.—Cloudy generally, light S.E. to southerly winds and calms.

New South Wales.—Fine, but in extreme S.E. and western parts cloudy, light variable winds and calms.

Queensland.—Fine, but more or less cloudy, light to fresh S.E. to easterly winds.

Central and N. Australia.—Fine but cloudy in extreme north, light south-easterly winds and calms.

New Zealand.—Cloudy, gloomy, and in extreme S.E. passing showers, N.W. to S.W. winds and calms.

Forecast.—Fine, cool weather generally, with rising barometers and moderate southerly to easterly winds and calms.

3 P.M. OBSERVATIONS.

New South Wales.—Dubbo, S., fine, temperature 75°; Cape St. George, S.E., like a change, 74°; Port Macquarie, S.E., fine, 82°; Newcastle, S.E., fine, 75°; Forbes, calm, fine, 91°; Eden, S.W., cloudy, 66°; Sydney, S.E., fine, 75°; Bourke, S.E., dull, 91°; Bathurst, S.W., dull, 79°; Clarence Heads, E., fine, 79°; Moruya Heads, S.S.E., fine, 70°; Walgett, calm, cloudy, 87°.

Queensland.—Cloncurry, E.S.E., 18, fine, temperature 92°. Roma, S.E., 8, cloudy, 85°.

Victoria.—Melbourne, S.W., 8, fine, temperature 65°; Cape Otway, S., 18, misty, smooth sea, 61°; Cape Schanck, calm, cloudy, smooth sea, 65°; Wilson's Promontory, E.N.E., 13, cloudy, moderate sea, 64°; Lake Entrance, S.E., 13, threatening rain, 68°.

ASTRONOMICAL MEMORANDA FOR MARCH 27.

Sun rises at 6.10, sets at 6.0; Moon, 6.2 p.m., 4.37 a.m.; Mercury, 4.0 a.m., 4.54 p.m.; Venus, 3.58 a.m., 4.53 p.m.; Mars, 6.58 p.m., 7.47 a.m.; Jupiter, 8.56 p.m., 10.57 a.m.; Saturn, [illegible] p.m., 12.49 a.m. New moon, 13th; full moon, 28th.

High water at Fort Denison: 7.49 a.m., 8.11 p.m.

H. C. RUSSELL,
Government Astronomer.

Stations.	wt.	Mx	m.	Rn.
Albury ..	b	90	57	0
Armidale	c	73	[illegible]	0·04
[illegible]	b	[illegible]	60	0
Bathurst	b	85	45	0
[illegible]	b	[illegible]	45	0·10
Bodalla ..	c	73	53	0
Bourke ..	b	100	60	0
Bungarra	b	82	52	0·06
C'md'n H.	c	79	66	0·55
C. St. Geo.	c	75	65	0
Carcoar ..	o	73	44	0
Casino ..	p	88	56	0·22
Cassilis ..	o	78	61	0
Clarence .	-	—	—	-
C nd'b'lin	b	92	45	0
Cooma ..	c	81	50	0·02
Coonab'n.	b	88	45	0
Cowra ..	b	93	58	0
Cu'g'llico	b	91	—	0
Deniliq'n.	b	102	50	0
Dubbo ..	h	92	56	0
Eden	b	82	56	0
Euston ..	b	101	58	0
Forbes ..	b	—	59	0
G'bo Isl'nd	b	69	56	0
Glen Inn's	b	57	44	0·05
Goulburn	c	90	55	0·05
Grafton ..	c	91	60	0
Gulgong .	b	82	49	0
Gunned'h	-	—	—	0
Hay	b	97	58	0
Inverell ..	b	71	50	0·08
Kiandra ..	f	75	40	0
Lismore .	c	88	61	0·62
Maitland .	c	85	54	0
M'n'ng H.	r	75	54	0
Marsdens.	b	88	61	0
Menindie.	b	—	—	0
Molong ..	b	90	47	0
M'r'ng'r'll	b	88	63	0
Moree ..	b	95	58	0
Moruya ..	c	76	62	0
Moss Vale	b	73	56	0
Mt. Hope	b	98	70	0
M. Vict'ria	b	75	41	0
Mudgee ..	b	92	51	0
M'rr'mb'h	b	88	57	0
M'rr'r'ndi	b	76	56	0
Mus'lbr'k	b	83	61	0
Narrabri	b	87	59	0
Newcastle	c	86	62	0
Orange ..	b	74	50	0
Picton ..	b	81	58	0
P. M'q'rie	p	—	63	0
P. St'ph'n	g	78	61	0
Q'nbeyan	c	99	62	0·02
Quirindi	b	82	60	0·09
Singleton	b	84	65	0
Sydney ..	p	78	65	0
Taralga ..	c	85	53	0
Taree	c	76	63	0
T'nt'rfield	b	78	49	0
Wagga ..	b	95	52	0
Walcha ..	f	74	37	0·10
Walgett	b	87	58	0
Warialda	-	—	—	-
Warrah ..	b	80	57	0
W'ntw'rth	b	95	62	0
W'll'ng'ng	c	83	61	0
Young ..	b	101	56	0

SYDNEY OBSERVATORY.

LATITUDE 33° 51' 41" S. LONGITUDE [illegible]

MAGNETIC VARIATION, [illegible]

Average Annual Rainfall for 29 years .... 49·857

Average for 30 years from Jan. 1 [illegible] .... 8·961

Total Rainfall from Jan. 1, to March 27 1888 ...... 4·279

Barometers corrected to 32° Fah and Mean Sea Level

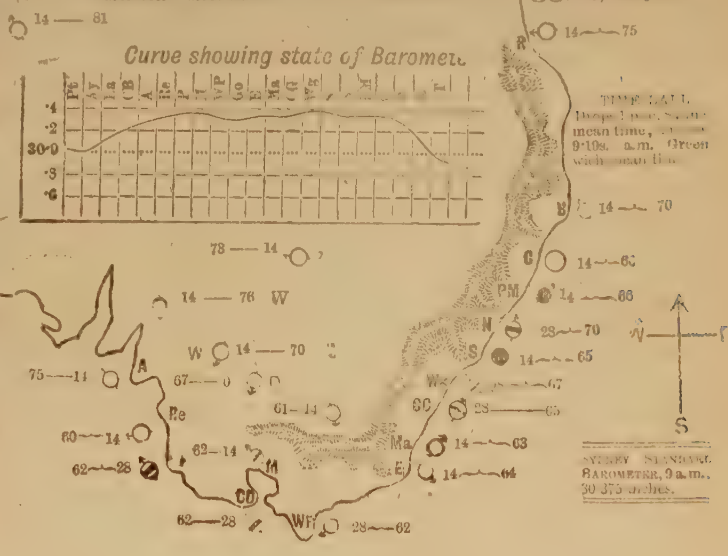
Fine wind S. — [illegible] wind W. — Storm, wind N. — Rain wind E.

If it is CALM, the symbol used without the arrow

Smooth sea.

Heavy sea.

Very heavy sea.



NOTES EXPLANATORY OF MAP.

In the list of stations the column headed W.T. gives the state of the weather at 9 a.m., b standing for blue sky; c, detached clouds; d, drizzling rain; f, fog; g, gloomy; h, hazy; m, misty; n, frosty; o, overcast; p, passing showers; r, rain; s, snow; t, thunder; u, threatening. The next column, M'x, gives the maximum temperature for previous 24 hours, M'n the corresponding minimum temperature; R'n, the rain for the previous 24 hours. The symbols used in the map are explained on the margin. At each station the wind symbol points to the direction in which the wind is blowing, is in fact an arrow flying with the wind. A clear circle with it means fine weather; a circle with bar, cloudy weather; and a black spot, raining. Next to this symbol are placed figures denoting the number of miles the wind is moving per hour; next, a symbol showing the state of the sea; and, lastly, figures denoting the shade temperature at 9 a.m. The barometer curve shows the state of barometers round the coast from Perth to Cooktown:—Pt, Perth; Av, Albany; Ea, Eucla; CB, Cape Borda; A, Adelaide; Re, Robe; P, Portland; M, Melbourne; WP, Wilson's Promontory; Go, Gabo; E, Eden; Ma, Moruya; CG, Jervis Bay; Wg, Wollongong; S, Sydney; N, Newcastle; PM, Port Macquarie; C, Clarence River; B, Brisbane; R, Rockhampton; Ct, Cooktown. Inland, the state of barometer is given in figures at Albury, Deniliquin, Wentworth, Menindie, Bourke, and Alice Springs. The barometer curve enables one at a glance to trace the depressions, beginning with Western Australia, and passing along eastwards; northerly winds preceding them, and southerly following.

The rainfall on Sundays or holidays when this map is not published, is in all cases included in the quantities shown by the next following map.

SYNOPSIS.

W. Australia.—Reports only from south, where it is cloudy and unsettled; light variable winds.

S. Australia.—Fine and warm generally; light south-east to north-east winds and calms.

Victoria and Straits.—Fine inland, cloudy on the coast; light variable, chiefly east to north-east winds and calms.

Tasmania.—Fine, with more or less clouds, foggy in south-east; light east to south-east winds and calms.

New South Wales.—Fine west of mountains, unsettled in east; light to fresh east to south-east and south winds.

Queensland.—Fine, with south-east to easterly and north-east winds.

Central and North Australia.—Fine and warm, with more or less scattered clouds; light north-east to south-east winds.

New Zealand.—Fine in central parts, passing showers in north and south; north-west to south-west winds, strong in north and south.

Forecast.—On the coast moderate south winds and cloudy weather, with rain in places, especially to north. Inland easterly to northerly winds; weather clearing and getting warm again.

3 P.M. OBSERVATIONS.

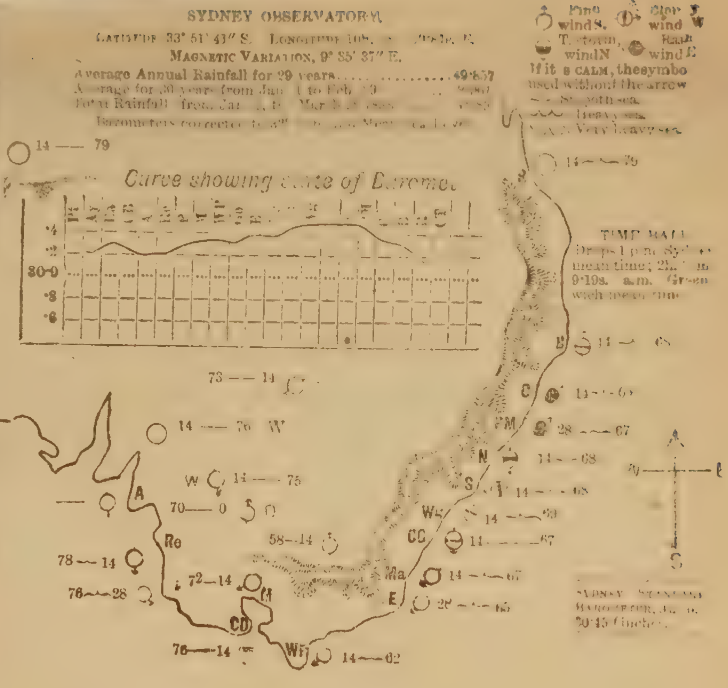
New South Wales.—Deniliquin, calm, fine, temperature 84°; Wentworth, N., fine, 84°; Port Macquarie, S., fine, 76°; Newcastle, S.E., fine, 70°; Dubbo, E., fine, 78°; Goulburn, calm, fine, 72°; Eden, E., fine, 67°; Clarence Heads, S., dull, 72°; Cape St. George, S.S.E., fine, 71°; Forbes, calm, fine, 89°; Bourke, N.E., fine, 93°; Sydney, N., dull, 69°; Walgett, S.E., fine, 85°.

ASTRONOMICAL MEMORANDA FOR MARCH 28.

Sun rises at 6.11, sets at 5.58; Moon, 6.43 p.m., 5.46 a.m.; Mercury, 3.58 a.m., 4.52 p.m.; Venus, 3.59 a.m., 4.53 p.m.; Mars, 6.53 p.m., 7.41 a.m.; Jupiter, 8.53 p.m., 10.53 a.m.; Saturn, 2.41 p.m., 12.45 a.m. New moon, 13th; full moon, 28th.

High water at Fort Denison: 8.33 a.m., 8.55 p.m.

H. C. RUSSELL,
Government Astronomer.



Stations	W.T.	M'X	M'N	R'N
Albury ..	b	88	54	0
Armidale	b	70	50	0
Balranald	b	97	59	0
Bathurst	b	81	45	0
Bendem'r	b	74	44	0·02
Bodalla ..	c	71	51	0
Bourke ..	b	98	63	0
Bungarra	b	80	57	0
C'md'n H.	c	75	64	0
C. St. Geo.	b	77	63	0
Carcoar ..	b	72	43	0
Casino ..	c	82	53	0·18
Cassilis ..	b	75	56	0
Clarence .	p	74	66	3·07
C nd'b'lin	b	91	61	0
Cooma ..	c	82	49	0
Coonab'n.	b	86	45	0
Cowra ..	b	92	59	0
Cudg'llico	b	91	—	0
Deniliq'n.	b	100	49	0
Dubbo ..	b	92	54	0
Eden	b	68	60	0
Euston ..	b	111	59	0
Forbes ..	b	—	57	-
G'bo Isl'nd	b	73	62	0
Glen Inn's	b	51	44	0
Goulburn	c	81	56	0
Grafton ..	b	82	56	0·14
Gulgong .	c	82	49	0
Gunned'h	-	—	—	-
Hay ..	b	99	60	0
Inverell ..	b	76	50	0
Kiandra ..	u	79	29	0
Lismore .	c	73	64	0·22
Maitland .	b	73	55	0
M'n'ng H.	b	72	58	0
Marsdens.	b	90	66	0
Menindie.	b	—	—	0
Molong ..	b	85	46	0
M'r'ng'r'll	b	87	58	0
Moree ..	b	95	57	0
Moruya ..	g	71	62	0
Moss Vale	-	—	—	-
Mt. Hope	b	100	71	0
M. Vict'ria	c	69	59	0
Mudgee ..	c	92	50	0
M'rr'mb'h	b	88	58	0
M'rr'r'ndi	b	73	54	0
Mus'lbr'k	b	80	54	0
Narrabri	b	86	59	0
Newcastle	c	76	64	0
Orange ..	b	72	49	0
Picton ..	-	—	—	-
P. M'q'rie	b	—	59	0·18
P. St'ph'n	g	73	51	0
Q'nbeyan	c	77	52	0
Quirindi	b	—	—	-
Singleton	b	74	65	0
SYDNEY ..	c	71	62	0
Taralga ..	g	74	55	0
Taree ..	c	79	59	0·01
T'nt'rfield	b	74	42	0
Wagga ..	b	94	49	0
Walcha ..	b	74	47	0
Walgett	b	86	60	0
Warialda	-	—	—	-
Warrah .	b	78	52	0
W'ntw'rth	b	101	66	0
W'll'ng'ng	c	75	60	0
Young ..	b	98	53	0

NOTES EXPLANATORY OF MAP.

In the list of stations the column headed W.T. gives the state of the weather at 9 a.m., b standing for blue sky; c, detached clouds; d, drizzling rain; f, fog, g, gloomy; h, hazy; m, misty; n, frosty; o, overcast; p, passing showers; r, rain; s, snow; t, thunder; u, threatening. The next column, M'x, gives the maximum temperature for previous 24 hours, M'n the corresponding minimum temperature; R'n, the rain for the previous 24 hours. The symbols used in the map are explained on the margin. At each station the wind symbol points to the direction in which the wind is blowing, is in fact an arrow flying with the wind. A clear circle with it means fine weather; a circle with bar, cloudy weather; and a black spot, raining. Next to this symbol are placed figures denoting the number of miles the wind is moving per hour; next, a symbol showing the state of the sea; and, lastly, figures denoting the shade temperature at 9 a.m. The barometer curve shows the state of barometers round the coast from Perth to Cooktown:—Pt, Perth; Ay, Albany; Ea, Eucla; CB, Cape Borda; A, Adelaide; Re, Robe; P, Portland; M, Melbourne; WP, Wilson's Promontory; Go, Gabo; E, Eden; Ma, Moruya; CG, Jervis Bay; Wg, Wollongong; S, Sydney; N, Newcastle; PM, Port Macquarie; C, Clarence River; B, Brisbane; R, Rockhampton; Ct, Cooktown. Inland, the state of barometer is given in figures at Albury, Deniliquin, Wentworth, Menindie, Bourke, and Alice Springs. The barometer curve enables one at a glance to trace the depressions, beginning with Western Australia, and passing along eastwards; northerly winds preceding them, and southerly following.

The rainfall on Sundays or holidays when this map is not published, is in all cases included in the quantities shown by the next following map.

SYNOPSIS.

W. Australia.—Reports only from south, where it is fine, with light N.W. winds and calms.

S. Australia.—Fine with scattered clouds; light to fresh north-east to northerly winds, smooth sea.

Victoria and Straits.—Fine, light north-east to northerly winds and calms.

Tasmania.—Fine, but cloudy in north-west; light to fresh north-west to north-east winds.

New South Wales.—Fine, but along the coast cloudy and unsettled, light to fresh variable winds and calms.

Queensland.—Fine west of mountains, gloomy or showery elsewhere; light south-easterly winds.

Central and North Australia.—Fine, but cloudy in extreme north, light north-east to south-east winds and calms.

New Zealand.—Fine in north and central parts, raining in south; S.W. to S. winds, generally strong.

Forecast.—Fine warm weather generally, probably some more rain in Clarence River. On the coast winds north-easterly, moderate. Inland light, variable, inclining to N. and N.W.

3 P.M. OBSERVATIONS.

New South Wales.—Cape St. George, N.E., fine, temperature 70°; Goulburn, calm, fine, 72°; Port Macquarie, S.S.E., fine, 78°; Newcastle, E.N.E., fine, 73°; Forbes, calm, fine, 90°; Eden, N.E., fine, 72°; Clarence Heads, S., fine, 74°; Dubbo, N.E., fine, 77°; Deniliquin, S.E., fine, 89°; Wentworth, N.N.W., fine, 81°; Walgett, S.E., fine, 84°; Sydney, N.E., fine, 69°; Bathurst, calm, fine, 80°.

ASTRONOMICAL MEMORANDA FOR MARCH 29.

Sun rises at 6.12, sets at 5.57; Moon, 7.23 p.m., 6.52 a.m.; Mercury, 3.59 a.m., 4.51 p.m.; Venus, 4.1 a.m., 4.52 p.m.; Mars, 6.48 p.m., 7.35 a.m.; Jupiter, 8.49 p.m., 10.49 a.m.; Saturn, 2.37 p.m., 12.41 a.m. New moon, 13th; full moon, 28th.

High water at Fort Denison: 9.17 a.m., 9.38 p.m.

H. C. RUSSELL,
Government Astronomer.

Stations.	W.T.	M'X	M'N	R'N
Albury ..	b	88	55	0
Armidale	b	67	43	0
Balranald	b	109	61	0
Bathurst	b	82	44	0
Bendem'r	b	73	42	0
Bodalla ..	b	74	47	0
Bourke ..	b	96	61	0
Bungarra	b	77	47	0
C'md'n H.	b	75	58	0
C. St. Geo.	b	76	58	0
Carcoar ..	b	74	43	0
Casino ..	b	79	58	0·08
Cassilis ..	b	74	51	0
Clarence .	b	81	66	0·01
C nd'b'lin	b	92	46	0
Cooma ..	c	85	44	0
Coonab'n.	b	82	41	0
Cowra ..	b	95	56	0
Cudg'llico	b	90	—	0
Deniliq'n.	b	103	59	0
Dubbo ..	b	90	50	0
Eden	b	93	57	0
Euston ..	b	112	58	0
Forbes ..	b	—	56	0
G'bo Isl'nd	b	74	61	0
Glen Inn's	b	83	41	0

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Goulburn	b	83	—	0
Grafton ..	b	82	94	0
Gulgong .	b	74	53	0
Gunned'h	b	—	—	-
Hay	b	99	59	0
Inverell ..	b	66	46	0
Kiandra ..	f	80	30	0
Lismore .	c	74	63	0·15
Maitland .	b	79	53	0
M'n'ng H.	-	—	—	-
Marsdens.	b	88	65	0
Menindie.	b	—	—	0
Molong ..	b	90	46	0
M'r'ng'r'll	b	80	55	0
Moree ..	b	91	56	0
Moruya ..	b	77	53	0
Moss Vale	b	69	50	0
Mt. Hope	b	94	69	0
M. Vict'ria	b	70	50	0
Mudgee ..	b	88	45	0
M'rr'mb'h	b	89	61	0
M'rr'r'ndi	b	78	50	0
Mus'lbr'k	b	78	50	0
Narrabri	b	83	51	0
Newcastle	f	75	55	0
Orange ..	b	73	47	0
Picton ..	b	75	54	0
P. M'q'rie	b	—	56	0
P. St'ph'n	b	70	48	0
Q'nbeyan	b	77	55	0
Quirindi	b	87	55	0
Singleton	b	79	—	0
Sydney ..	b	71	—	0
Taralga ..	b	84	42	0
Taree	b	80	56	0
T'nt'rfield	g	74	45	0
Wagga ..	b	95	48	0
Walcha ..	b	73	45	0
Walgett	b	85	58	0
Warialda	b	74	48	0
Warrah ..	-	—	—	-
W'ntw'rth	b	101	65	0
W'll'ng'ng	b	80	61	0
Young ..	-	—	—	-

SYDNEY OBSERVATORY.

LATITUDE 33° 51' 41" S. LONGITUDE 10h. [illegible]m. 50·81s. E.

MAGNETIC VARIATION, 9° 35' 37" E.

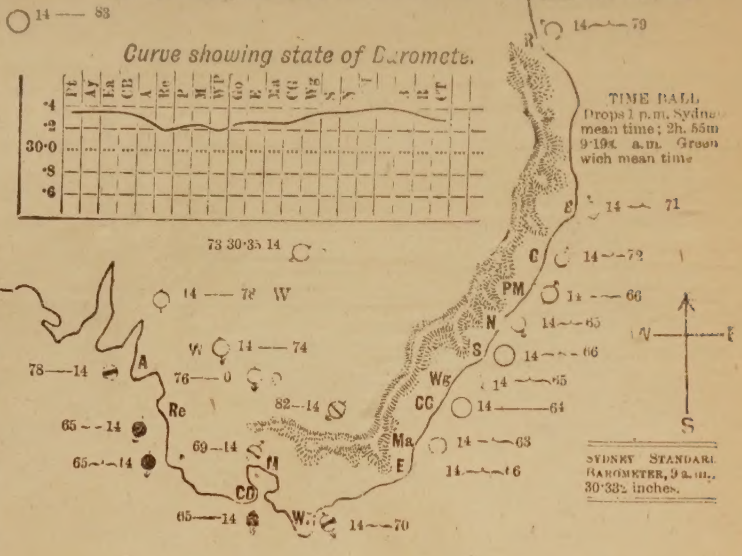
Average Annual Rainfall for 29 years .... 49·857
Average for 30 years from Jan. 1 to Feb. 29 ..... 8·961
Total Rainfall from Jan. 1. to March 29 1888 ..... 4·283

Barometers corrected to 32° Fah. and Mean Sea Level

Fine winds. | Cloudy wind W. | T. storm, wind N. | Rain wind S.

If it is CALM, the symbol is used without the arrow

Smooth sea.
Heavy sea.
Very heavy sea.



NOTES EXPLANATORY OF MAP.

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The rainfall on Sundays or holidays when this map is not published, is in all cases included in the quantities shown by the next following map.

SYNOPSIS.

South Australia.—Overcast, gloomy, and threatening; very light variable winds and calms.

Victoria and Straits.—Overcast, gloomy, and threatening; light rain on the coast; light N.E. and N.W. winds.

Tasmania.—More or less cloudy and dull; light N.E. to N.W. winds.

New South Wales.—Fine and clear throughout; warm in S.W.; light northerly winds.

Queensland.—Fine west of ranges; gloomy and showery coastwise; fresh N.E. to S.E. winds.

Forecast.—Fine generally, with northerly winds and warm weather; on the coast, moderate N.E. winds.

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